ORDER NO. MD0403057C1

A6

Service Manual

Active Subwoofer System

SB-WA920PP

Colour

(S)...Silver Type

SPECIFICATIONS

Specification

■ **Active subwoofer**

Type	**1 way, 1 speaker system (Bass reflex)**
Speaker unit	**Impedance 4 Ω**
Woofer	**20 cm (7-7/8") Cone type**
Output sound pressure	**84 dB/W (1.0 m)**
Frequency range	**34 Hz-220 Hz (-16 dB)** **38 Hz-190 Hz (-10 dB)**
Dimensions (W x H x D)	**285 x 418 x 475 mm** **(11-7/32" x 16-15/32" x 18-11/16")**
Mass	**15 kg (33 lb.)**

■ **General**

Power consumption	**390V**
Power supply	**AC 120V, 60Hz**

Note :
Specifications are subject to change without notice.
Mass and dimensions are approximate.

SB-HT920P-S consists of :
SB-PF920P-S x 2, SB-PS920P-S x 2 and SB-PC920P-S x 1

■ **System : SC-HT920 (P)**	**Music Center: SA-HT920 (P)** **Satellite Speakers: SB-HT920 (P)** **Active Subwoofer: SB-WA920 (PP)**
■ **System : SC-HT920 (PC)**	**Music Center: SA-HT920 (PC)** **Satellite Speakers: SB-HT920 (P)** **Active Subwoofer: SB-WA920 (PP)**

Panasonic

1. Safety Precautions

1.1. GENERAL GUIDELINES

1. When servicing, observe the original lead dress. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.

2. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers shields are properly installed.
3. After servicing, make the following leakage current checks to prevent the customer from being exposed to shock hazards.

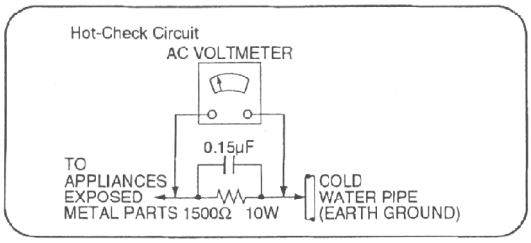
(This "Safety Precaution" is applied only in U.S.A.)

1. Before servicing, unplug the power cord to prevent an electric shock.
2. When replacing parts, use only manufacturer's recommended components for safety.
3. Check the condition of the power cord. Replace if wear or damage is evident.
4. After servicing, be sure to restore the lead dress, insulation barriers, insulation papers, shields, etc.
5. Before returning the serviced equipment to the customer, be sure to make the following insulation resistance test to prevent the customer from being exposed to a shock hazard.

1.1.1. LEAKAGE CURRENT COLD CHECK

1. Unplug the AC cord and connect a jumper between the two prongs on the plug.
2. Measure the resistance value, with an ohmmeter, between the jumpered AC plug and each exposed metallic cabinet part on the equipment such as screwheads, connectors, control shafts, etc. When the exposed metallic part has a return path to the chassis, the reading should be between 1M Ω and 5.2 Ω . / When the exposed metal does not have a return path to the chassis, the reading must be ∞ .

Fig. 1



1.1.2. LEAKAGE CURRENT HOT CHECK (See Figure 1.)

1. Plug the AC cord directly into the AC outlet. Do not use an isolation transformer for this check.
2. Connect a 1.5k Ω , 10 watts resistor, in parallel with a 0.15 μ F capacitors, between each exposed metallic part on the set and a good earth ground such as a water pipe, as shown in Figure 1.
3. Use an AC voltmeter, with 1000 ohms/volt or more sensitivity, to measure the potential across the resistor.
4. Check each exposed metallic part, and measure the voltage at each point.
5. Reverse the AC plug in the AC outlet and repeat each of the above measurements.
6. The potential at any point should not exceed 0.75 volts RMS. A leakage current tester (Simpson Model 229 or equivalent) may be used to make the hot checks, leakage current must not exceed 1/2 milliamp. In case a measurement is outside of the limits specified, there is a possibility of a shock hazard, and the equipment should be repaired and rechecked before it is returned to the customer.

2. Handling the Lead-free Solder

2.1. About lead free solder (PbF)

Distinction of PbF P.C.B. :

P.C.B.s (manufactured) using lead free solder will have a PbF stamp on the P.C.B.

Caution:

- Pb free solder has a higher melting point that standard solder; Typically the melting point is 50 - 70°F (30 - 40°C) higher. / Please use a high temperature soldering iron. In case of the soldering iron with temperature control, please set it to 700 ± 20°F (370 ± 10°C).
- Pb free solder will tend to splash when heated too high (about 1100°F/600°C).
- When soldering or unsoldering, please completely remove all of the solder on the pins or solder area, and be sure to heat the soldering points with the Pb free solder until it melts enough.

3. Before Repair and Adjustment

Disconnect AC power, discharge Power Supply Capacitors C546, C547, C548, C549 through a 10

Ω , 1 W resistor to ground.
DO NOT SHORT-CIRCUIT DIRECTLY (with a screwdriver blade, for instance), as this may destroy solid state devices.
After repairs are completed, restore power gradually using a variac, to avoid overcurrent.
Current consumption at AC 120V, 60Hz in NO SIGNAL mode should be ~1000 mA .

4. Protection Circuitry

The protection circuitry may have operated if either of the following conditions are noticed:

- No sound is heard when the power is turned on.

- Sound stops during a performance.

The function of this circuitry is to prevent circuitry damage if, for example, the positive and negative speaker connection wires are
"shorted", or if speaker systems with an impedance less than the indicated rated impedance of the amplifier are used.
If this occurs, follow the procedure outlines below:

1. Turn off the power.

2. Determine the cause of the problem and correct it.

3. Turn on the power once again after one minute.

Note :
When the protection circuitry functions, the unit will not operate unless the power is first turned off and then on again.

5. Connection of the Speaker Cables

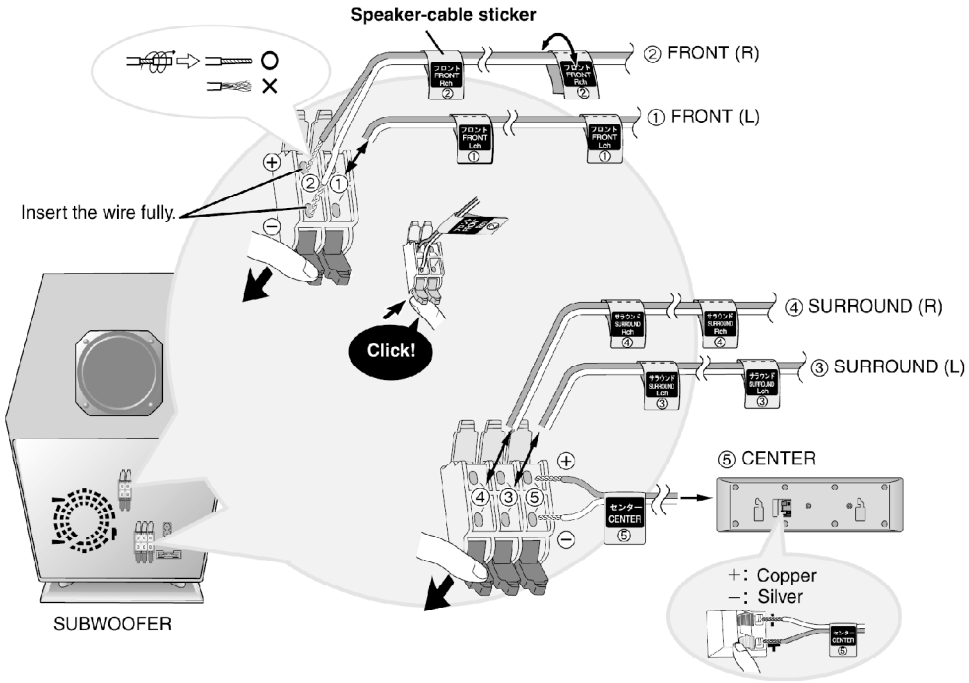
- Be sure to connect speaker cables before connecting the AC power supply cord.

- The load impedance of any speaker used with this unit must be 4 Ω .

- Be sure to connect the cable from the right speaker to the right terminal and the cable from the left speaker to the left terminal.

1. Strip off the outer covering, and twist the center conductor. Make sure the bare ends of the wires are not unravelled. (If they are, twist them tight again.)

2. Insert the wire to the rear panel of the unit and close the lever.



Notes :

- To prevent damage to circuitry, never short-circuit positive (+) and negative (-) speaker wires.

- Be sure to connect only positive (Copper) wires to positive (+) terminals and negative (Silver) wires to negative (-) terminals.

6. Disassembly Procedure

“ATTENTION SERVICER”

Some chassis components may have sharp edges.
Be careful when disassembling and servicing.

1. This section describes procedures for checking the operation of the major printed circuit boards and replacing the main components.

2. For reassembly after operation checks or replacement, reverse the respective procedures.
Special reassembly procedures are described only when required.

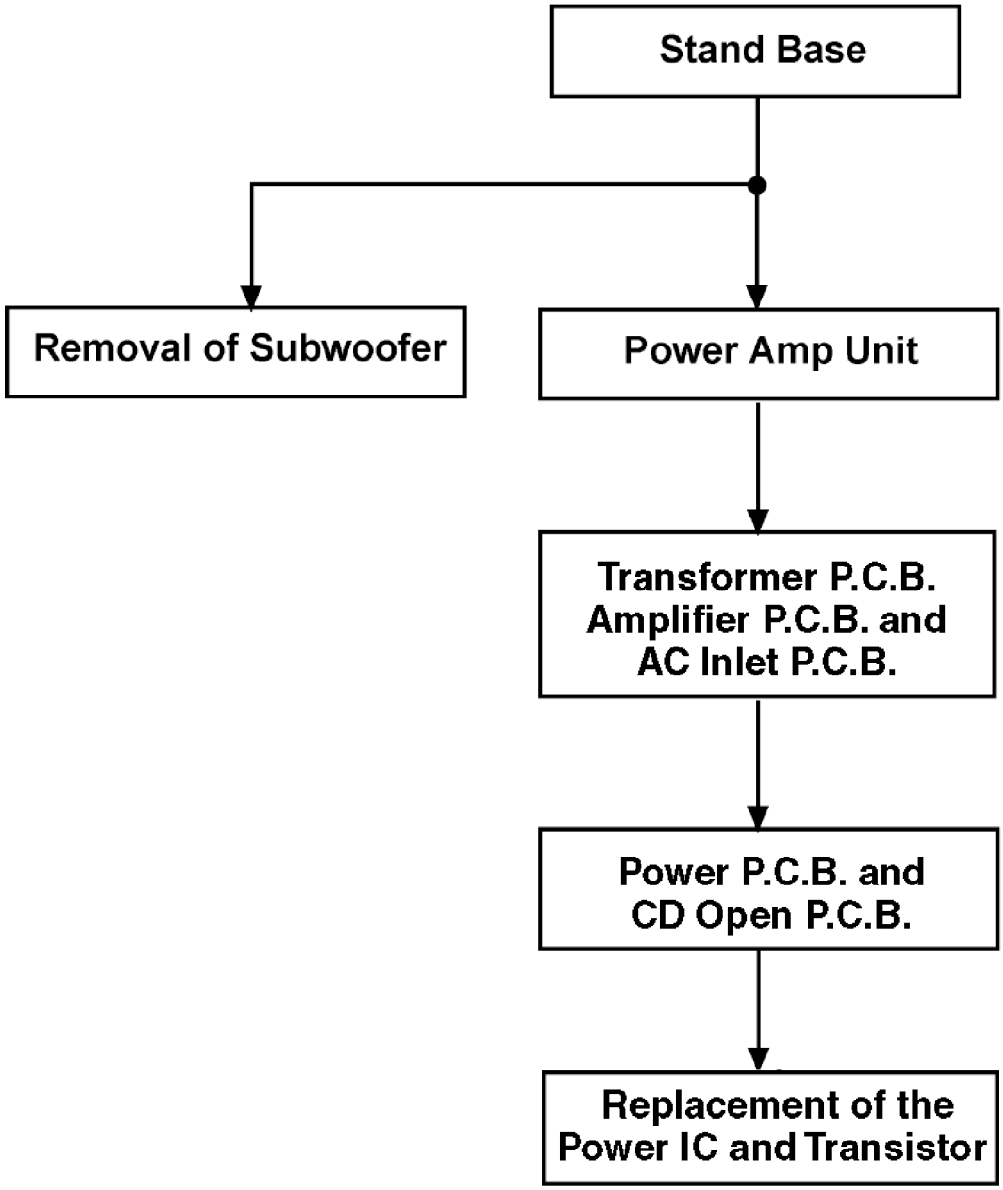
3. Select items from the following index when checks or replacement are required.

Contents

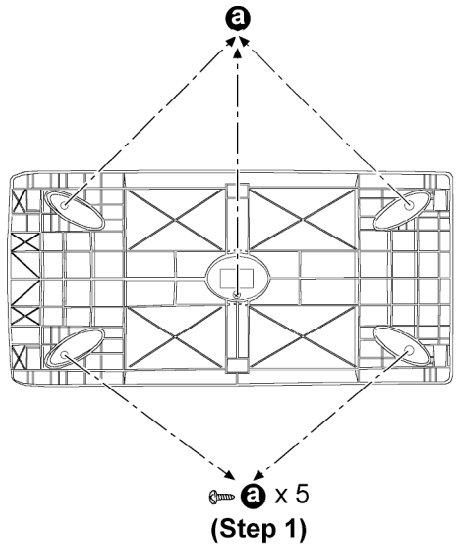
- Disassembly of the Speaker Unit
- Main Component Replacement Procedures

6.1. Disassembly flow chart

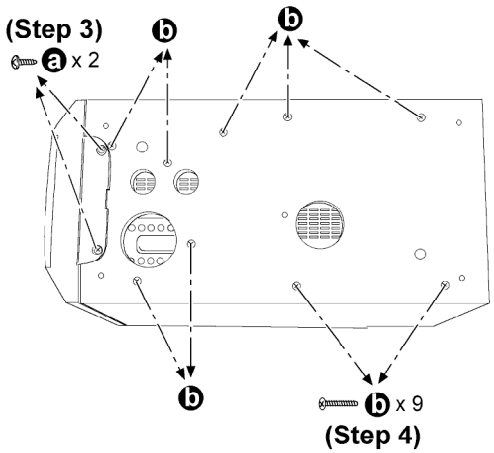
The following chart is the procedure for disassembling the casing and inside parts for internal inspection when carrying out the servicing.
To assemble the unit, reverse the steps shown in the chart below.



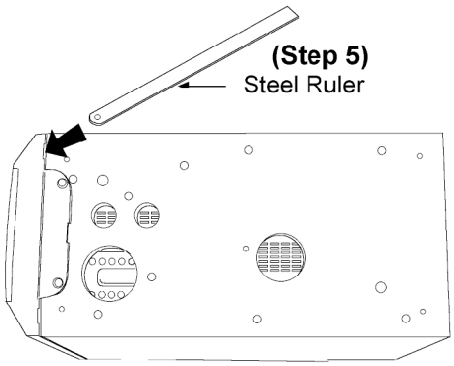
6.2. Disassembly of the Speaker Unit and Checking of the P.C.B.



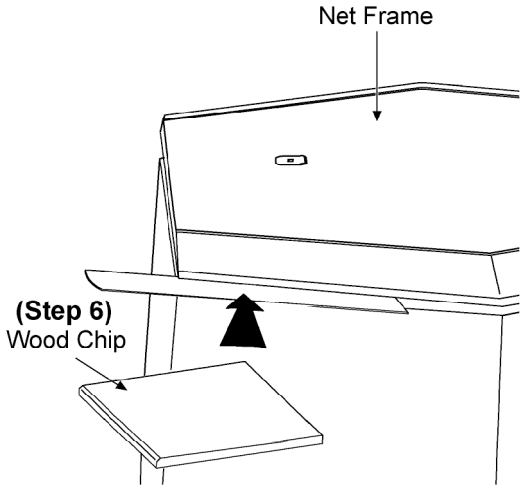
Step 1: Remove all the screws.
Step 2: Remove the stand base.



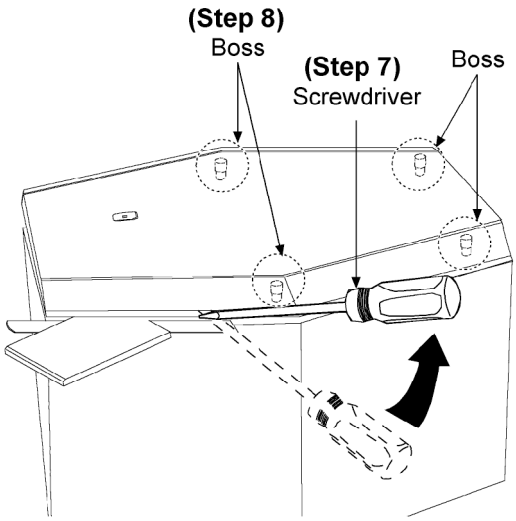
Steps 3 & 4: Remove all the screws from the bottom of the speaker unit.



Step 5: Use the Steel Ruler to slot into the hole of the bottom cabinet of speaker.

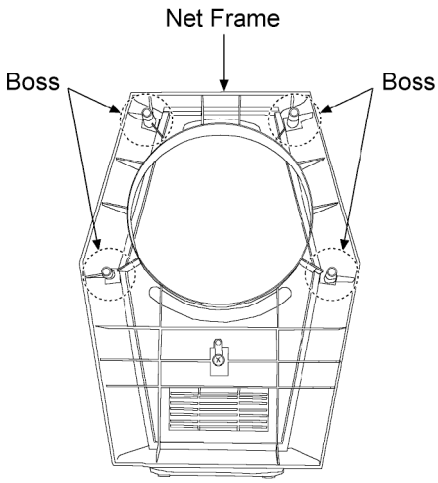


Step 6: Use the Wood Chip to slot between the Net Frame and the Steel Ruler as arrow shown.

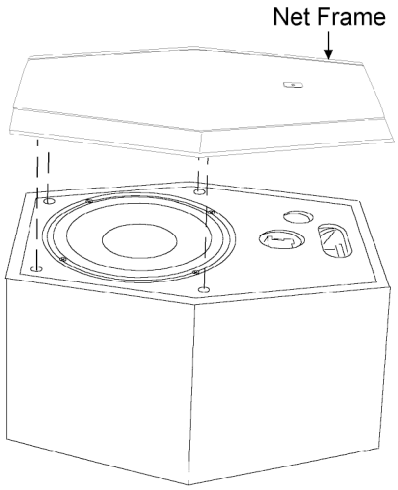


Step 7: Use the Screwdriver slightly lift up the Net Frame as arrow shown.
Step 8: Take note of the bosses which glued to the unit .

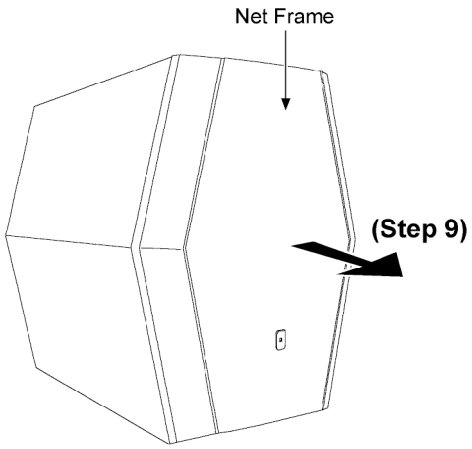
- Assembly of Net Frame.



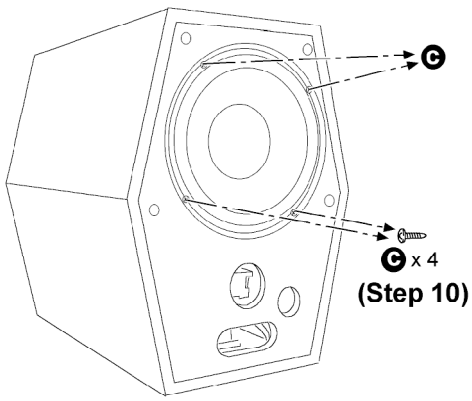
Clean up all the glue at the 4 Boss points and replace with the normal glue.



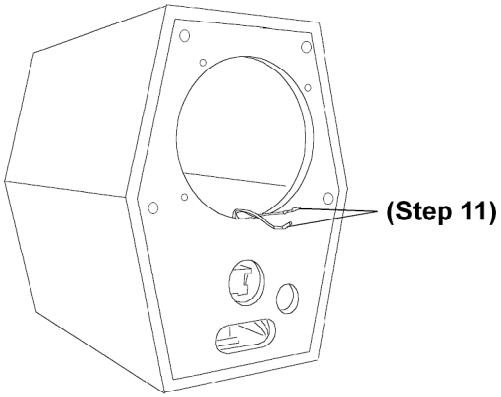
Replace the Net Frame firmly back into the cabinet.



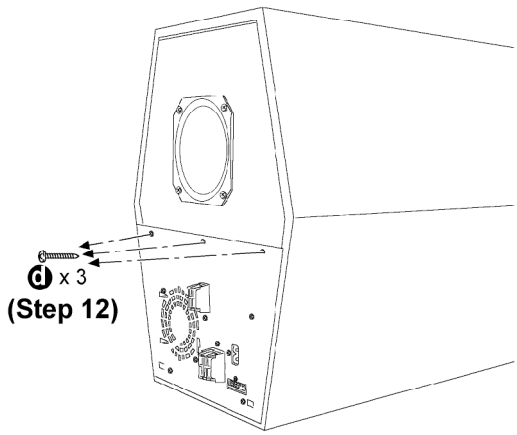
Step 9: Remove the Net Frame from the cabinet of speaker.



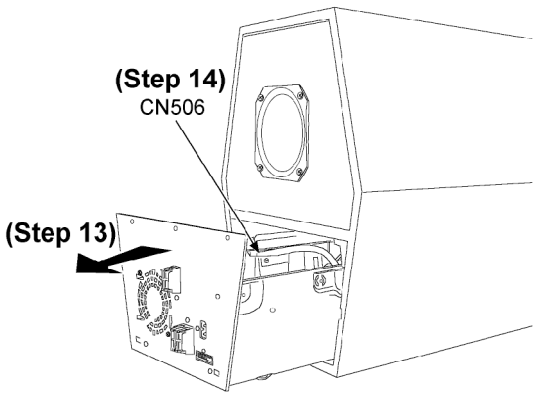
Step 10: Remove all the screws from the subwoofer.



Step 11: Remove the subwoofer by detaching the 2 wires.

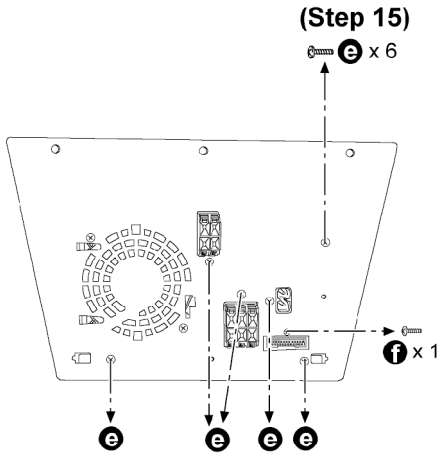


Step 12: Remove the screws.

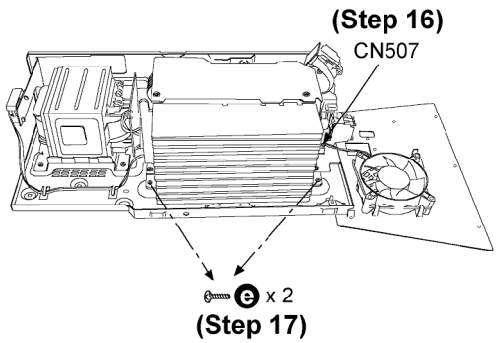


Step 13: Pull out the Power Amp unit slightly as shown.

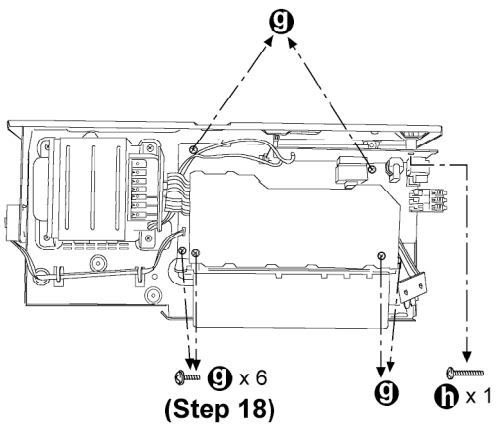
Step 14: Release the connector CN506 then pull out the entire Power Amp unit.



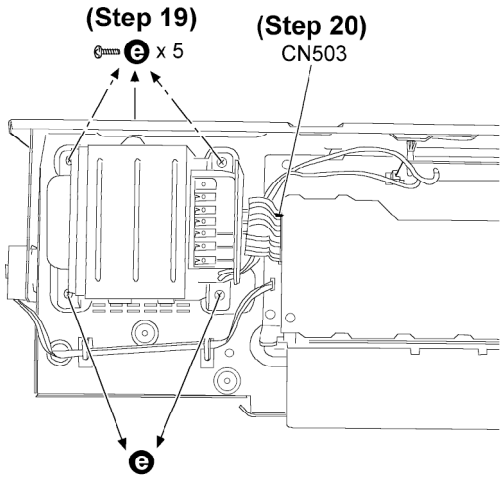
Step 15: Remove all the screws.



Step 16: Release the connector CN507 to remove the rear panel.
Step 17: Remove all the screws.

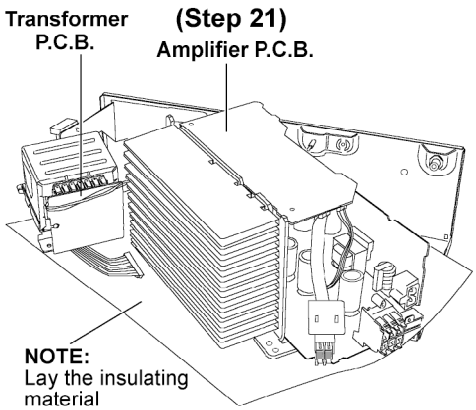


Step 18: Remove all the screws.

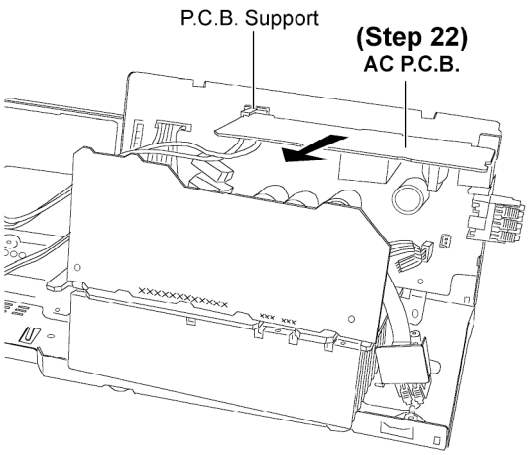


Step 19: Remove all the screws.
Step 20: Detach the connector CN503 and remove the transformer.

- Checking for the Transformer, Amplifier and AC Inlet P.C.B.

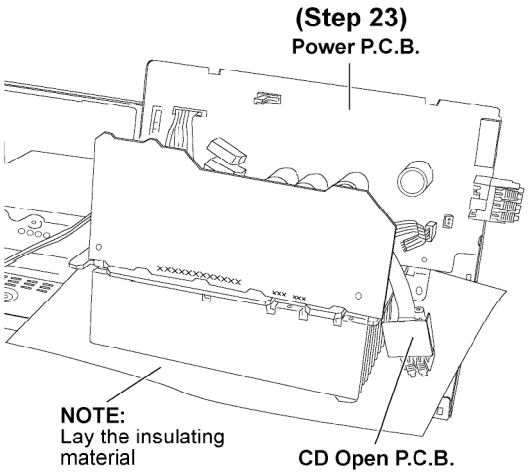


Step 21: Place the Transformer P.C.B., Amplifier P.C.B. and the AC Inlet P.C.B. as shown for checking.



Steps 22: Release the AC Inlet P.C.B. as arrow shown.

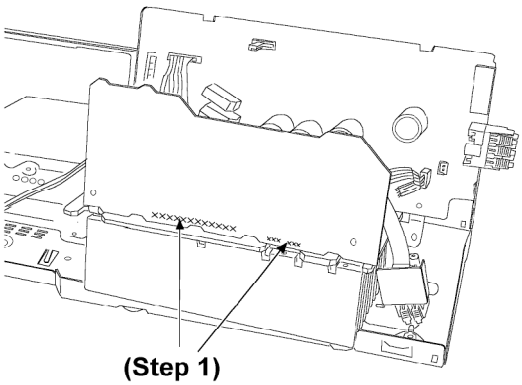
- Checking for the Power and CD Open P.C.B.



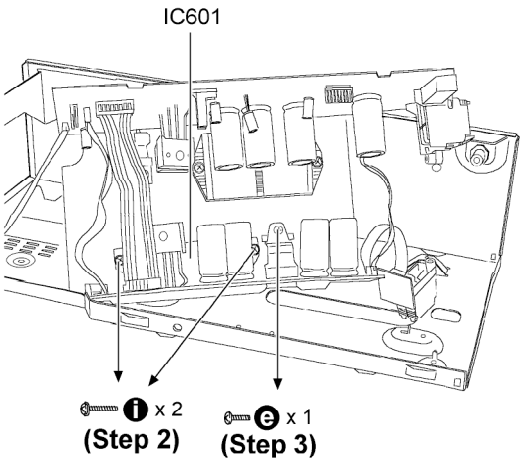
Step 23: Place the Power P.C.B. and the CD Open P.C.B. as shown for checking.

6.3. Main Component Replacement Procedures

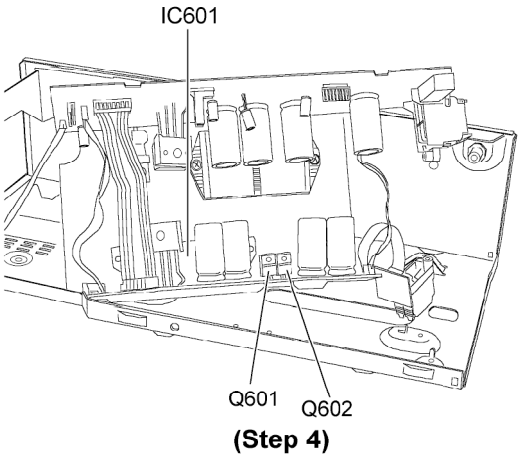
6.3.1. Replacement of the Power ICs and Transistors



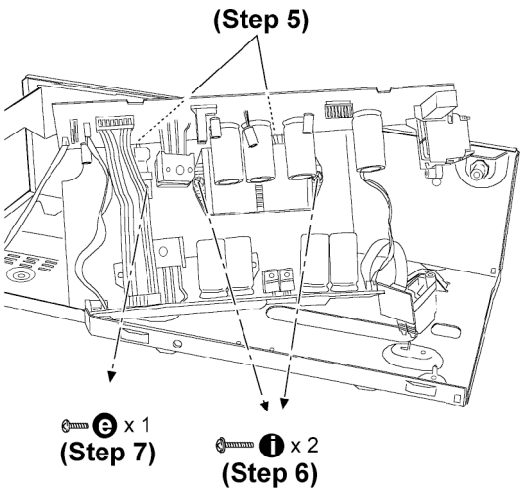
Step 1: Desolder the Power IC and Transistor terminals.



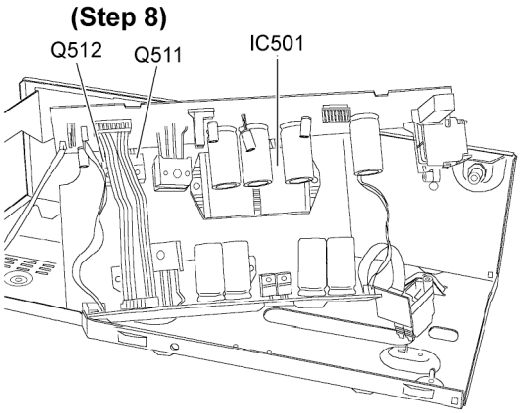
Steps 2 & 3: Remove the screws.



Step 4: Replacement of the Power IC601 and Transistors (Q601 & Q602).

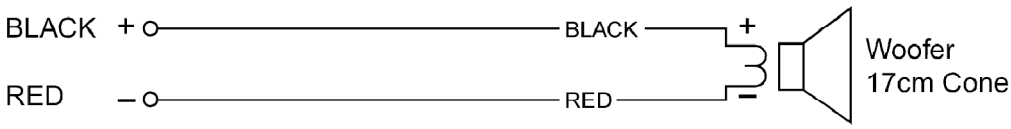


Steps 5: Desolder the Power IC and Transistor terminals.
Steps 6 & 7: Remove the screws.



Step 8: Replacement of the Power IC501 and Transistors (Q511 & Q512).

7. Connection of the Speaker Wiring



8. Block Diagram

9. Schematic Diagram

(All schematic diagrams may be modified at any time with the development of the new technology)

Note:

- The voltage value and waveforms are the reference voltage of this unit measured by DC electronic voltmeter (high impedance) and oscilloscope on the basis of chassis. Accordingly, there may arise some error in voltage values and waveforms depending upon the internal impedance of the tester or the measuring unit.

- Importance safety notice :

Components identified by ⚠ mark have special characteristics important for safety. Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used. When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.

Caution !

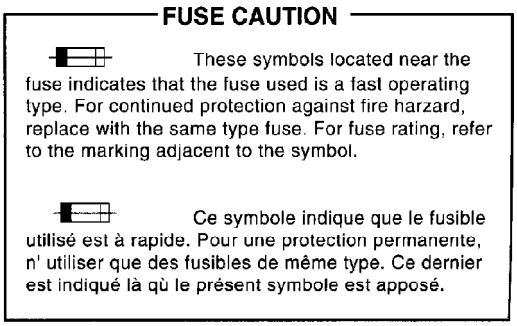
IC, LSI and VLSI are sensitive to static electricity.

Secondary trouble can be prevented by taking care during repair.

- Cover the parts boxes made of plastics with aluminium foil.

- Put a conductive mat on the work table.
- Ground the soldering iron.
- Do not touch the pins of IC, LSI or VLSI with fingers directly.

CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH SAME TYPE F1 6A , 125V FUSE.
RISK OF FIRE-REPLACE FUSE AS MARKED.


FUSE CAUTION
These symbols located near the fuse indicates that the fuse used is a fast operating type. For continued protection against fire harzard, replace with the same type fuse. For fuse rating, refer to the marking adjacent to the symbol.
Ce symbole indique que le fusible utilisé est à rapide. Pour une protection permanente, n' utiliser que des fusibles de même type. Ce dernier est indiqué là qù le présent symbole est apposé.

10. Printed Circuit Board

11. Wiring Connection Diagram

12. Illustration of IC's, Transistors and Diodes

13. Parts Location and Replacement Parts List

Notes:

- **Important safety notice:**
  Components identified by ⚠ mark have special characteristics important for safety.
  Furthermore, special parts which have purposes of fire-retardent (resistors), high-quality sound (capacitors), low noise (resistors), etc are used.
  When replacing any of these components, be sure to use only manufacturer's specified parts shown in the parts list.
- **The parenthesized indications in the Remarks columns specify the areas or colour. (Refer to the cover page for area or colour)**
  Parts without these indications can be used for all areas.
- **Capacitor values are in microfarads (μ F) unless specified**

otherwise, P= Pico-farads (pF), F= Farads.

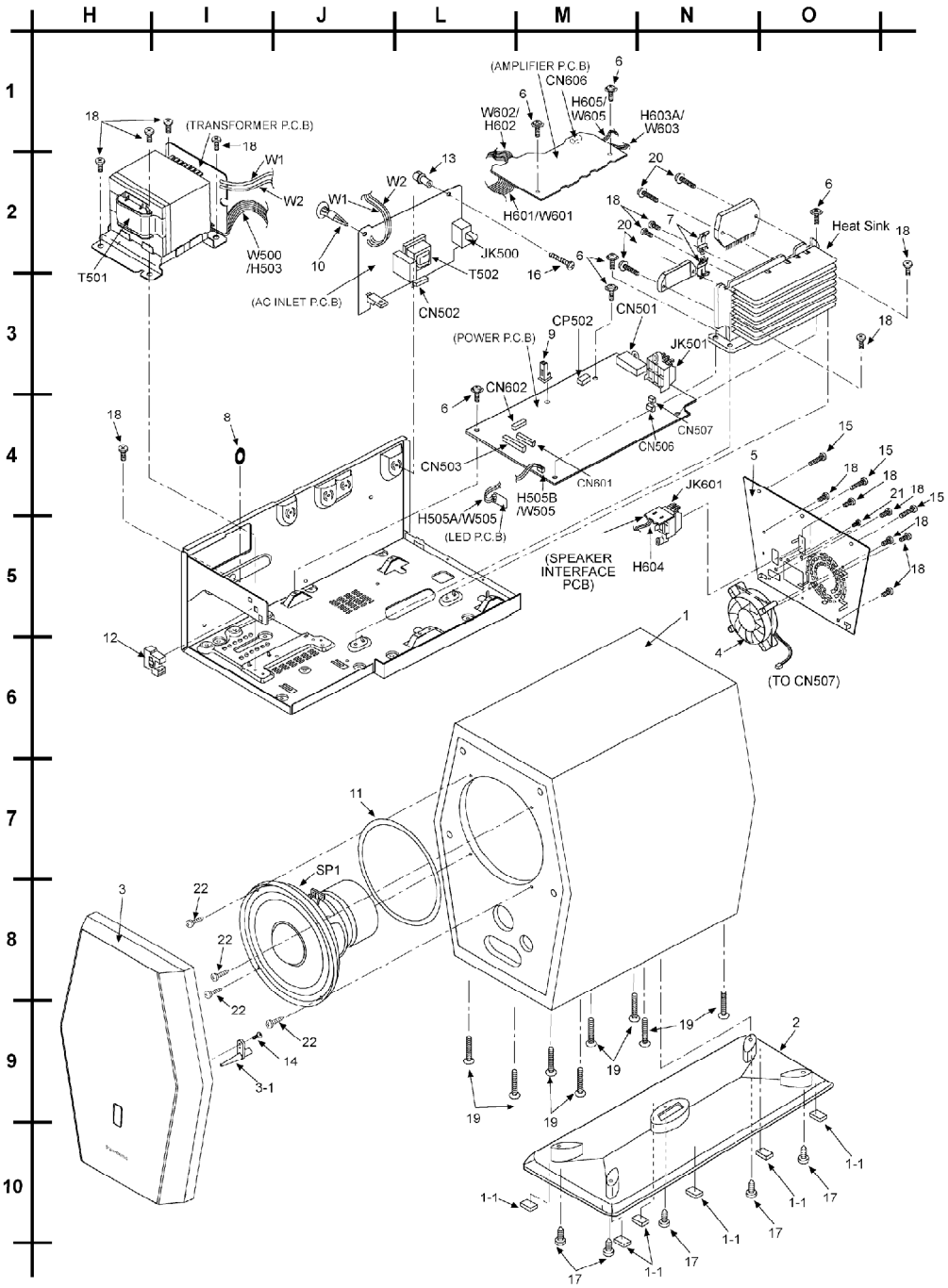
- Resistance values are in ohms, unless specified otherwise, 1K= 1,000 (OHM).

- The marking (RTL) indicates that the Retention Time is limited for this items. After the discontinuation of this assembly in production, the item will continue to be available for a specific period of time. The retention period of a availability is dependent on the type of assembly, and in accordance with the laws governing part and product retention. After the end of this period, the assembly will no longer be available.

- [M] Markings in the Remarks columns indicates parts supplied by PAVCSG.

13.1. Cabinet

13.1.1. Cabinet Parts Location



13.1.2. Cabinet Parts List

Ref. No.	Part No.	Part Name & Description	Remarks
		CABINET AND CHASSIS	
1	RFKHBWA920PP	SUB WOOFER ASS'Y	[M]
1-1	RKA0147-K	LEG CUSHION	[M]
2	RGKX0255-S	STAND ORNAMENT	[M]
3	RYQX0136-S	FRONT PANEL UNIT	[M]
3-1	RGLX0097-Q	LIGHTING CHIP	[M]
4	REM0072-3	FAN	[M]
5	RGRX0038A-A	REAR PANEL	[M]
6	RHD30092	SCREW	[M]
7	RMC0158-S	TR-FIXTURE	[M]
8	RMGX0039-KJ	TRANS RUBBER	[M]
9	RMN0203	PCB HOLDER	[M]
10	RMNX0135	SPACER	[M]
11	RMQX0091	EVA PACKING (WOOFER)	[M]
12	RMRX0047-J	LED HOLDER	[M]
13	SHE187-6J	PCB SUPPORT	[M]
14	XTB3+12JFZ	SCREW	[M]
15	XTB3+16AFZ	SCREW	[M]
16	XTB3+20JFZ	SCREW	[M]
17	XTB4+12AFZ	SCREW	[M]
18	XTBS3+8JFZ1	SCREW	[M]
19	XTS4+20JFZ	SCREW	[M]
20	XTW3+15T	SCREW	[M]
21	XYC26+CJ6FZ	SCREW	[M]
22	XTB4+16AFZ	SCREW	[M]

13.2. Electrical Parts List

Ref. No.	Part No.	Part Name & Description	Remarks
		PRINTED CIRCUIT BOARD	
	REPX0436A	POWER P.C.B./ AC INLET P.C.B./ TRANSFORMER P.C.B./ LED P.C.B.	[M] (RTL)
	REPX0435A	AMPLIFIER P.C.B./ SPEAKER INTERFACE P.C.B.	[M] (RTL)
		INTEGRATED CIRCUITS	
IC501	RSN311W64B-P	IC HIC	[M]
IC502	C0AABB000055	IC AMP	[M]
IC601	RSN312H24-P	IC POWER	[M]
		TRANSISTORS	
Q501	KTC3199GRTA	TRANSISTOR	[M]
Q502	KTC3199GRTA	TRANSISTOR	[M]
Q503	KTC3199GRTA	TRANSISTOR	[M]
Q505	KTC3199GRTA	TRANSISTOR	[M]
Q506	B1GCCFJJ0015	TRANSISTOR	[M]
Q511	B1BACG000009	TRANSISTOR	[M]
Q512	B1BCCG000021	TRANSISTOR	[M]
Q513	KTC3199GRTA	TRANSISTOR	[M]
Q514	KTC3199GRTA	TRANSISTOR	[M]
Q515	KTC3199GRTA	TRANSISTOR	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
Q516	KRC102MTA	TRANSISTOR	[M]
Q517	B1BACG000009	TRANSISTOR	[M]
Q519	KTC3199GRTA	TRANSISTOR	[M]
Q520	B1GCCFJJ0015	TRANSISTOR	[M]
Q552	B1ACCF000063	TRANSISTOR	[M]
Q553	2SD0592ARA	TRANSISTOR	[M]
Q554	B1ACCF000063	TRANSISTOR	[M]
Q555	2SD0592ARA	TRANSISTOR	[M]
Q556	B1ACCF000063	TRANSISTOR	[M]
Q557	2SD0592ARA	TRANSISTOR	[M]
Q601	B1BACG000009	TRANSISTOR	[M]
Q602	B1BCCG000021	TRANSISTOR	[M]
Q603	2SD1859QRTV2	TRANSISTOR	[M]
		DIODES	
D500	B0AACK000004	DIODE	[M]
D501	B0JAPG000019	DIODE	[M]
D502	B0JAPG000019	DIODE	[M]
D503	MA2C700A0F	DIODE	[M]
D504	B0AACK000004	DIODE	[M]
D508	B0AACK000004	DIODE	[M]
D509	B0BA5R100013	DIODE	[M]
D510	B0BA5R700008	DIODE	[M]
D524	SLI325URCT31	DIODE	[M]
D525	B0BA6R600008	DIODE	[M]
D528	B0EAKM000122	DIODE	[M]
D533	B0BA5R100013	DIODE	[M]
D555	B0AACK000004	DIODE	[M]
D556	B0BA01100004	DIODE	[M]
D557	B0EAKM000117	DIODE	[M]
D558	B0AACK000004	DIODE	[M]
D559	B0AACK000004	DIODE	[M]
D560	B0AACK000004	DIODE	[M]
D561	B0BA01100004	DIODE	[M]
D562	B0AACK000004	DIODE	[M]
D563	B0BA01900005	DIODE	[M]
D564	B0BA01900005	DIODE	[M]
D565	B0BA01900005	DIODE	[M]
D566	B0BA01900005	DIODE	[M]
D597	B0FBAM000009	DIODE	[M]
D598	B0FBAM000009	DIODE	[M]
D599	B0FBAM000009	DIODE	[M]
D601	B0FBAM000009	DIODE	[M]
D602	B0FBAM000009	DIODE	[M]
D603	B0JAPG000019	DIODE	[M]
D604	B0JAPG000019	DIODE	[M]
D605	B0BA01200008	DIODE	[M]
D606	B0BA01200008	DIODE	[M]
D607	B0BA02300017	DIODE	[M]
D608	B0BA01400009	DIODE	[M]
D609	B0BA01900005	DIODE	[M]
D610	B0BA01400009	DIODE	[M]
D611	B0BA01900005	DIODE	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
		CONNECTORS	
CN501	K1FB125B0095	SYSTEM CONNECTOR	[M]
CN502	K1KB07B00020	2P CONNECTOR	[M]
CN503	RJT119W15V	15P WIRE HOLDER	[M]
CN506	K1KA03A00006	CONNECTOR	[M]
CN507	K1KA02A00008	CONNECTOR	[M]
CN601	RJT119W10V	10P CONNECTOR	[M]
CN602	RJT119W08V	CONNECTOR	[M]
CN606	K1KA03B00047	CONNECTOR	[M]
CP502	K1KA07A00123	2P CONNECTOR	[M]
		COILS & TRANSFORMERS	
L500	RLQZ371	LINE FILTER	[M] ⚠
T501	G4C8AHD00001	POWER TRANSFORMER	[M] ⚠
T502	ETP28KBZA1PU	BACK UP TRANSFORMER	[M] ⚠
		COMPONENT COMBINATION	
Z501	ERZV10V511CS	ZENER	[M] ⚠
		SPEAKER	
SP1	L0AA20A00004	WOOFER	[M]
		RELAY	
RLY501	RSY0040M-0	PRIMARY RELAY	[M] ⚠
		FUSE	
F1	K5D602AQ0002	FUSE	[M] ⚠
		FUSE HOLDERS	
FC501	EYF52BC	FUSE HOLDER	[M]
FC502	EYF52BC	FUSE HOLDER	[M]
		FUSE PROTECTOR	
FP1	K5G502AA0002	5A FUSE PROTECTOR	[M] ⚠
		HOLDERS	
H503	RJS1A5515	15P WIRE HOLDER	[M]
H505A	RMR0312	3P CABLE HOLDER	[M]
H505B	RMR0312	3P CABLE HOLDER	[M]
H601	K1YF10000006	10P WIRE HOLDER	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
H602	RJS1A5508	WIRE HOLDER	[M]
H603	K1YF04000001	CABLE HOLDER	[M]
H604	K1YF04000001	CABLE HOLDER	[M]
H605	RJS1A5503	CABLE HOLDER	[M]
		JACKS	
JK500	K2AB2B000002	JK AC INLET	[M] ⚠
JK501	K4BC06B00043	JACK	[M]
JK601	K4BC04B00080	JK SPEAKER TERMINAL	[M]
		EARTH TERMINALS	
E500	K4CZ01000027	TERMINAL	[M]
E501	K4CZ01000027	TERMINAL	[M]
		WIRES	
W1	REEX0365	PRI WIRE (BROWN)	[M]
W2	REEX0364	PRI WIRE (BLUE)	[M]
W500	REXX0361	15P TRANS-POWER	[M]
W505	RWJ1103280XX	3P STRAND TYPE WIRE	[M]
W601	REXX0421	10P STRAND TYPE WIRE	[M]
W602	REXX0422	8P STRAND TYPE WIRE	[M]
W603	RWJ4904100XX	4P STRAND TYPE WIRE	[M]
W605	REEX0424	3P STRAND TYPE WIRE	[M]
		RESISTORS	
R401	ERDS2TJ224T	220K 1/4W	[M]
R402	ERDS2TJ102T	1K 1/4W	[M]
R403	ERDS2TJ104T	100K 1/4W	[M]
R500	ERC12UGK335D	3.3M 1/2W	[M]
R501	ERDS2TJ472T	4.7K 1/4W	[M]
R502	ERDS2TJ472T	4.7K 1/4W	[M]
R505	ERDS2TJ153T	15K 1/4W	[M]
R506	ERDS2TJ153T	15K 1/4W	[M]
R509	ERDS2TJ472T	4.7K 1/4W	[M]
R510	ERDS2TJ472T	4.7K 1/4W	[M]
R511	ERDS2TJ153T	15K 1/4W	[M]
R512	ERDS2TJ153T	15K 1/4W	[M]
R513	ERDS2TJ563T	56K 1/4W	[M]
R514	ERDS2TJ563T	56K 1/4W	[M]
R515	ERDS2TJ563T	56K 1/4W	[M]
R516	ERDS2TJ563T	56K 1/4W	[M]
R519	ERDS2TJ824T	820K 1/4W	[M]
R520	ERDS2TJ223T	22K 1/4W	[M]
R521	ERDS2TJ563T	56K 1/4W	[M]
R522	ERDS2TJ563T	56K 1/4W	[M]
R523	ERDS2TJ124T	120K 1/4W	[M]
R524	ERDS2TJ124T	120K 1/4W	[M]
R525	ERDS2TJ154T	150K 1/4W	[M]
R526	ERDS2TJ124T	120K 1/4W	[M]
R529	ERDS2TJ223T	22K 1/4W	[M]

[illegible]	[illegible]	[illegible]	[illegible]

Ref. No.	Part No.	Part Name & Description	Remarks
R530	ERD25FVJ1R0T	1 1/4W	[M]
R531	ERD25FVJ1R0T	1 1/4W	[M]
R532	ERDS2TJ472T	4.7K 1/4W	[M]
R533	ERDS1FVJ100T	10 1/2W	[M]
R534	ERDS1FVJ100T	10 1/2W	[M]
R537	ERDS1FVJ100T	10 1/2W	[M]
R538	ERDS1FVJ100T	10 1/2W	[M]
R539	ERDS2TJ101T	100 1/4W	[M]
R540	ERDS2TJ101T	100 1/4W	[M]
R541	ERDS2TJ101T	100 1/4W	[M]
R542	ERDS2TJ101T	100 1/4W	[M]
R543	ERDS2TJ101T	100 1/4W	[M]
R544	ERDS2TJ101T	100 1/4W	[M]
R545	ERDS2TJ224T	220K 1/4W	[M]
R546	ERDS2TJ102T	1K 1/4W	[M]
R547	ERDS2TJ394T	390K 1/4W	[M]
R548	ERDS2TJ334T	330K 1/4W	[M]
R549	ERDS2TJ392T	3.9K 1/4W	[M]
R550	ERDS2TJ103T	10K 1/4W	[M]
R551	ERDS2TJ103T	10K 1/4W	[M]
R558	ERDS2TJ104T	100K 1/4W	[M]
R559	ERDS2TJ103T	10K 1/4W	[M]
R560	ERDS2TJ151T	150 1/4W	[M]
R561	ERDS1FVJ392T	3.9K 1/2W	[M]
R562	ERDS2TJ472T	4.7K 1/4W	[M]
R563	ERDS1FVJ102T	1K 1/2W	[M]
R564	ERDS2TJ224T	220K 1/4W	[M]
R565	ERDS1FVJ392T	3.9K 1/2W	[M]
R566	ERG2SJ220E	22 2W	[M]
R567	ERDS1FVJ152T	1.5K 1/2W	[M]
R568	ERDS2TJ151T	150 1/4W	[M]
R569	ERDS1FVJ392T	3.9K 1/2W	[M]
R570	ERDS2TJ103T	10K 1/4W	[M]
R571	ERDS2TJ332T	3.3K 1/4W	[M]
R572	ERDS2TJ223T	22K 1/4W	[M]
R573	D0XGR10JA005	0.1 1/10W	[M]
R575	ERDS2TJ682T	6.8K 1/4W	[M]
R577	ERDS2TJ152T	1.5K 1/4W	[M]
R578	ERDS2TJ103T	10K 1/4W	[M]
R579	ERDS2TJ332T	3.3K 1/4W	[M]
R580	ERDS2TJ220T	22 1/4W	[M]
R581	ERDS2TJ682T	6.8K 1/4W	[M]
R582	ERDS2TJ224T	220K 1/4W	[M]
R583	ERDS2TJ101T	100 1/4W	[M]
R584	ERDS2TJ473T	47K 1/4W	[M]
R587	ERDS2TJ272T	2.7K 1/4W	[M]
R588	ERDS2TJ151T	150 1/4W	[M]
R589	ERDS2TJ103T	10K 1/4W	[M]
R590	ERDS2TJ102T	1K 1/4W	[M]
R591	ERDS2TJ682T	6.8K 1/4W	[M]
R592	ERDS2TJ683T	68K 1/4W	[M]
R593	ERDS2TJ474T	470K 1/4W	[M]
R594	ERDS2TJ103T	10K 1/4W	[M]
R595	ERDS2TJ101T	100 1/4W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R596	ERDS2TJ473T	47K 1/4W	[M]
R597	ERDS2TJ103T	10K 1/4W	[M]
R598	ERDS1FVJ152T	1.5K 1/2W	[M]
R599	ERDS2TJ223T	22K 1/4W	[M]
R600	ERDS2TJ473T	47K 1/4W	[M]
R601	ERDS2TJ473T	47K 1/4W	[M]
R602	ERDS2TJ472T	4.7K 1/4W	[M]
R603	ERDS2TJ103T	10K 1/4W	[M]
R604	ERDS2TJ225T	2.2M 1/4W	[M]
R605	ERG2SJ220E	22 2W	[M]
R606	ERG2SJ220E	22 2W	[M]
R607	ERG2SJ220E	22 2W	[M]
R608	ERDS1FVJ152T	1.5K 1/2W	[M]
R609	ERDS1FVJ152T	1.5K 1/2W	[M]
R610	ERD2FCVJ4R7T	4.7 1/4W	[M]
R611	ERD2FCVJ4R7T	4.7 1/4W	[M]
R611	ERDS2TJ103T	10K 1/4W	[M]
R612	ERD2FCVJ4R7T	4.7 1/4W	[M]
R613	ERDS2TJ272T	2.7K 1/4W	[M]
R614	ERDS2TJ272T	2.7K 1/4W	[M]
R615	ERDS2TJ473T	47K 1/4W	[M]
R616	ERDS2TJ472T	4.7K 1/4W	[M]
R617	ERDS2TJ822T	8.2K 1/4W	[M]
R618	ERDS2TJ473T	47K 1/4W	[M]
R619	ERDS2TJ563T	56K 1/4W	[M]
R620	ERDS2TJ563T	56K 1/4W	[M]
R621	ERDS2TJ273T	27K 1/4W	[M]
R622	ERDS2TJ103T	10K 1/4W	[M]
R623	ERDS2TJ392T	3.9K 1/4W	[M]
R624	ERDS2TJ392T	3.9K 1/4W	[M]
R625	ERDS2TJ153T	15K 1/4W	[M]
R626	ERDS2TJ153T	15K 1/4W	[M]
R627	ERDS2TJ124T	120K 1/4W	[M]
R628	ERDS2TJ154T	150K 1/4W	[M]
R631	ERDS1FVJ100T	10 1/2W	[M]
R632	ERDS1FVJ100T	10 1/2W	[M]
R633	ERDS2TJ824T	820K 1/4W	[M]
R634	ERDS2TJ473T	47K 1/4W	[M]
R635	ERDS2TJ473T	47K 1/4W	[M]
		CAPACITORS	
C500	ECKWRS102MBC	1000P 400V	[M]
C503	ECBT1H102KB5	1000P 50V	[M]
C504	ECBT1H102KB5	1000P 50V	[M]
C505	ECBT1H102KB5	1000P 50V	[M]
C506	ECBT1H102KB5	1000P 50V	[M]
C507	ECBT1H180JC5	18P 50V	[M]
C508	ECBT1H180JC5	18P 50V	[M]
C509	ECBT1H220JC5	22P 50V	[M]
C510	ECBT1H220JC5	22P 50V	[M]
C513	F1D1H473A012	0.047 50V	[M]
C514	ECEA0JKA101B	100 6.3V	[M]
C515	ECKR2H103ZF5	0.01 500V	[M]

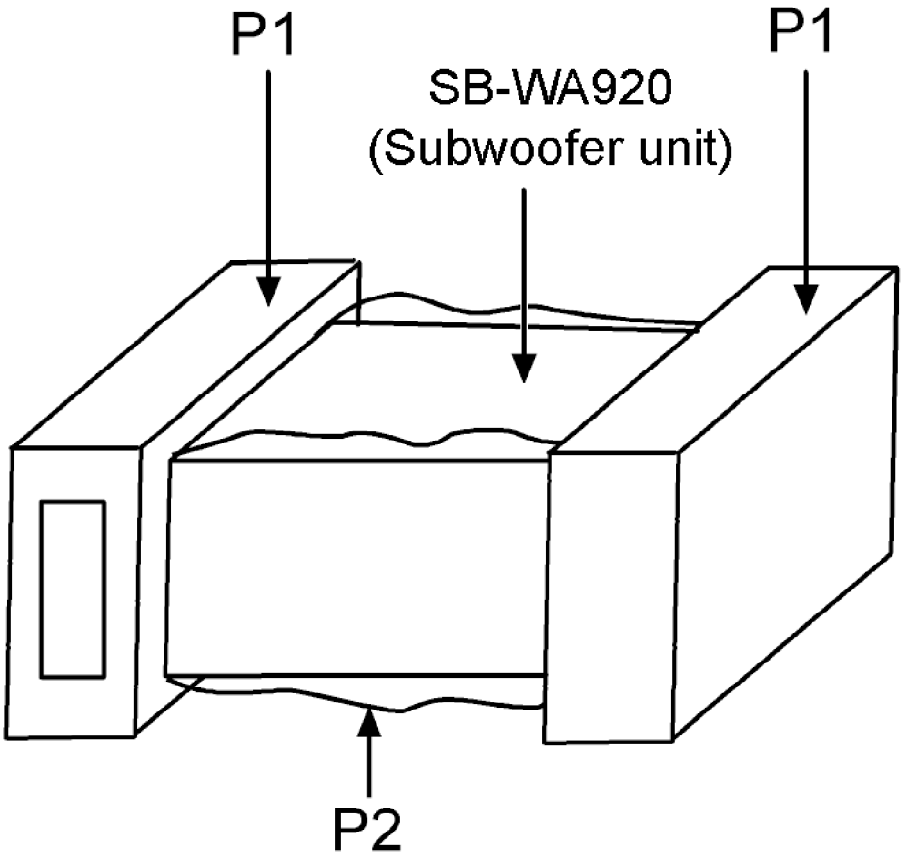
Ref. No.	Part No.	Part Name & Description	Remarks
C516	ECKR2H103ZF5	0.01 500V	[M]
C517	ECBT1C103NS5	0.01 16V	[M]
C518	F1D1H473A012	0.047 50V	[M]
C519	F1D1H473A012	0.047 50V	[M]
C522	F1D1H473A012	0.047 50V	[M]
C523	F1D1H473A012	0.047 50V	[M]
C529	F1D1H1040002	0.1 50V	[M]
C530	ECBT1H102KB5	1000P 50V	[M]
C531	ECBT1H102KB5	1000P 50V	[M]
C532	ECBT1H102KB5	1000P 50V	[M]
C533	ECBT1H102KB5	1000P 50V	[M]
C534	ECA1HM330B	33 50V	[M]
C543	ECBT1H102KB5	1000P 50V	[M]
C544	ECA1HM101B	100 50V	[M]
C545	F1D1H1040002	0.1 50V	[M]
C546	ECA1SM332B	3300 100V	[M]
C547	ECA1SM472B	4700 100V	[M]
C548	ECA1SM472B	4700 100V	[M]
C549	ECA1SM332B	3300 100V	[M]
C550	ECBT1C103NS5	0.01 16V	[M]
C551	ECBT1H103KB5	0.01 50V	[M]
C553	ECQE1104KF3	0.1 100V	[M]
C554	ECQE1104KF3	0.1 100V	[M]
C555	ECEA1VKA4R7B	4.7 35V	[M]
C556	ECBT1H103KB5	0.01 50V	[M]
C557	ECEA1AKA470B	47 10V	[M]
C559	ECBT1H103KB5	0.01 50V	[M]
C560	ECA1HM100B	10 50V	[M]
C561	ECEA1HKA2R2B	2.2 50V	[M]
C562	ECQB1H103JF3	0.01 50V	[M]
C563	ECQV1H154JL3	0.15 50V	[M]
C564	ECBT1C122KR5	1200P 16V	[M]
C565	F1D1H1040002	0.1 50V	[M]
C566	F1D1H1040002	0.1 50V	[M]
C567	ECA1HM100B	10 50V	[M]
C568	ECBT1C103NS5	0.01 16V	[M]
C569	F1D1H473A012	0.047 50V	[M]
C570	ECA1EM331B	330 25V	[M]
C571	F2A1E1020065	1000P 25V	[M]
C572	ECA1HM101B	100 50V	[M]
C573	ECBT1H102KB5	1000P 50V	[M]
C574	ECBT1H103KB5	0.01 50V	[M]
C575	ECBT1H103KB5	0.01 50V	[M]
C576	RCE1HKN100BG	10P 50V	[M]
C577	ECEA1CKA100B	10 16V	[M]
C578	ECBT1H103KB5	0.01 50V	[M]
C579	ECBT1H103KB5	0.01 50V	[M]
C580	ECEA1HKA2R2B	2.2 50V	[M]
C601	ECA1SM332B	3300 100V	[M]
C602	ECA1SM472B	4700 100V	[M]
C603	ECA1SM472B	4700 100V	[M]
C604	ECA1SM332B	3300 100V	[M]
C605	ECQE1104KF3	0.1 100V	[M]
C606	ECQE1104KF3	0.1 100V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C607	ECBT1H180JC5	18P 50V	[M]
C608	ECBT1H180JC5	18P 50V	[M]
C609	ECKR2H103ZF5	0.01 500V	[M]
C610	ECKR2H103ZF5	0.01 500V	[M]
C611	ECBT1H102KB5	1000P 50V	[M]
C612	ECBT1H102KB5	1000P 50V	[M]
C613	ECKR1H103ZF5	0.01 50V	[M]
C614	ECKR1H103ZF5	0.01 50V	[M]
C615	F1D1H473A012	0.047 50V	[M]
C616	F1D1H473A012	0.047 50V	[M]
C619	F1D1H473A012	0.047 50V	[M]
C647	ECA0JM471B	470 6.3V	[M]

13.3. Packing Materials & Accessories Parts List

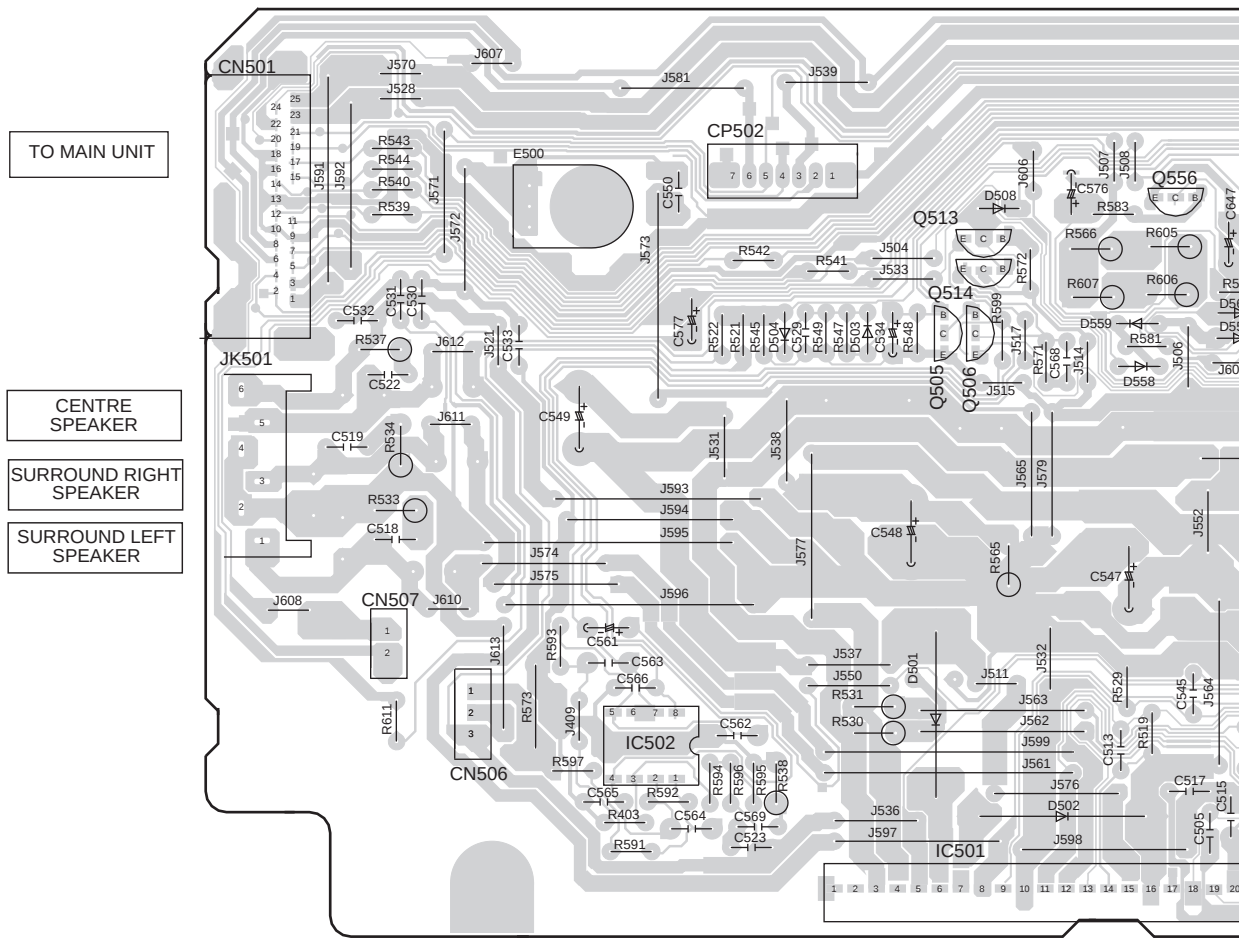
Ref. No.	Part No.	Part Name & Description	Remarks
		PACKING MATERIALS	
P1	RPNX0248	POLYFOAM	[M]
P2	RPFX0087	MIRAMAT BAG	[M]

13.4. Packaging

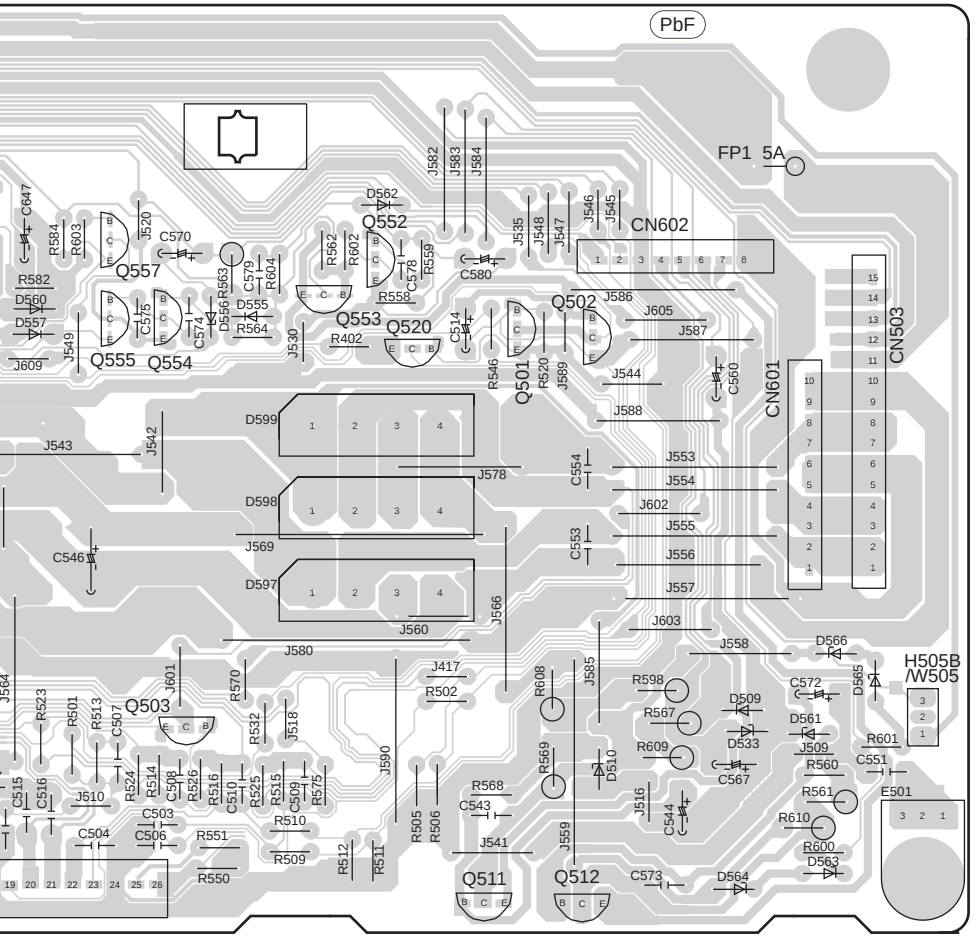


FLE0403/P/A/S/E/N

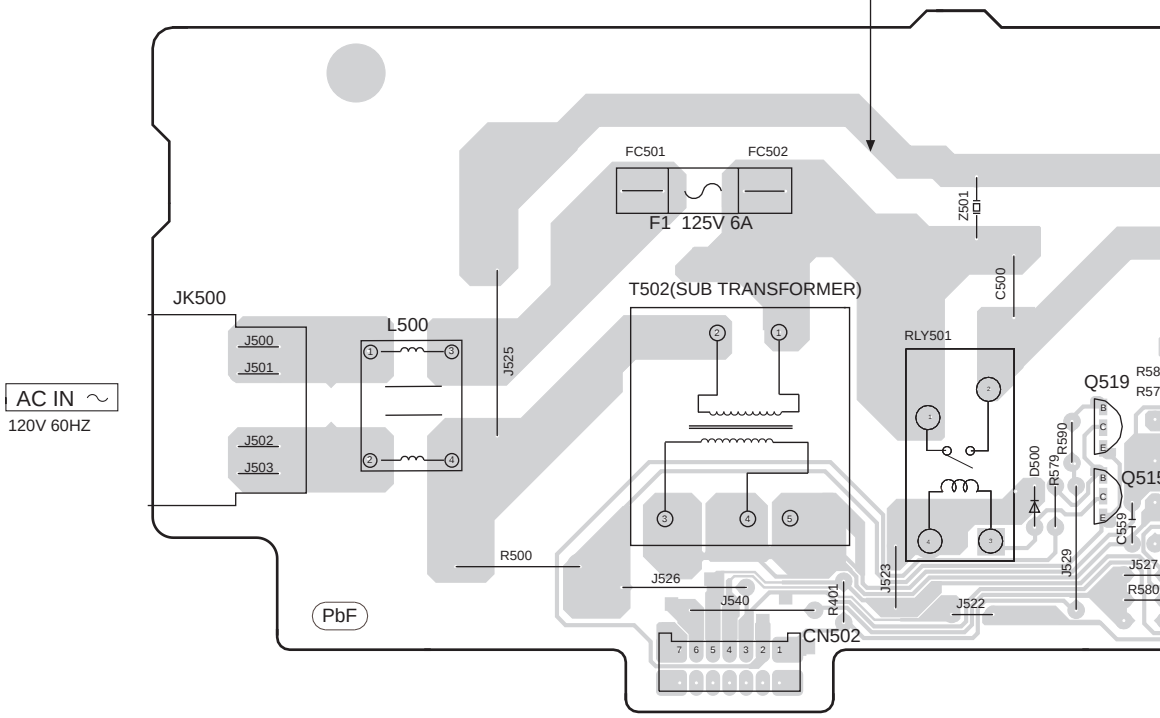
A POWER P.C.B. (REPX0436A)



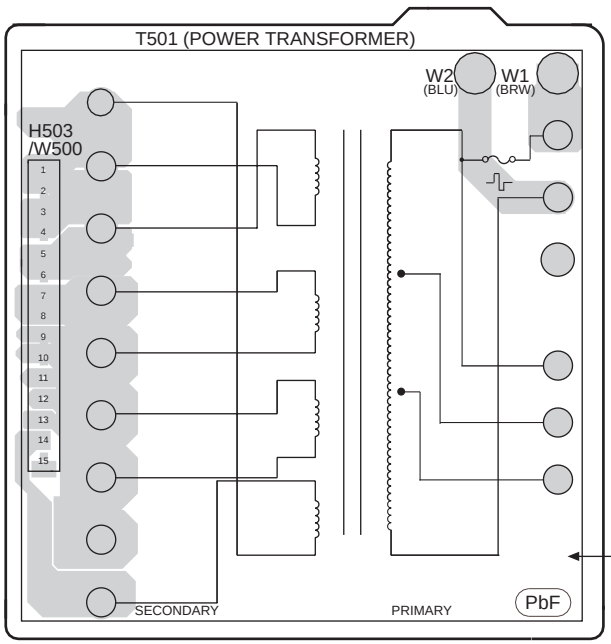
G H I J K L M


PbF
FP1 5A
CN602
CN503
CN601
H505B
/W505
Q552
Q557
Q553
Q520
Q555
Q554
Q502
Q501
Q503
Q511
Q512
E501
D562
D560
D557
D599
D598
D597
D566
D565
D509
D561
D533
D563
D564
J543
J542
J578
J569
J546
J560
J566
J580
J564
J601
J417
J502
J585
J590
J610
J541
J559
J549
J609
J530
J582
J583
J584
J535
J548
J547
J546
J545
J586
J605
J587
J544
J588
J589
J553
J554
J602
J555
J556
J557
J603
J558
J509
J516
J518
J523
J501
J513
J524
J514
J526
J516
J510
J525
J515
J509
J575
J504
J506
J551
J550
J512
J511
J505
J506
J568
J543
J608
J569
J510
J598
J567
J609
J533
J567
J572
J561
J509
J560
J561
J610
J600
J563
J573
J564
J601
J551
C647
R584
R603
J520
C570
R582
C557
R560
D557
J549
J609
C575
C574
D556
R563
C579
R604
D555
R564
J530
R562
R602
C578
R559
R558
R402
C580
C514
R546
R520
J589
C554
C553
C546
C560
C572
D565
R598
R567
R609
C567
R601
C551
R560
R561
R610
E501
R600
D563
C573
D564
R570
R532
R608
J585
J516
C544
C543
R568
R569
D510
R502
J417
J590
R505
R506
R512
R511
R509
R510
C503
R551
R550
C504
C506
C507
R501
R513
R523
C515
C516
R524
R514
C508
R526
R516
C510
R525
R515
C509
R575
J610
J564
J601
R570
R532
J518
J590
J505
J506
J512
J511
J559
J541
R568
C543
R569
D510
J516
C544
R608
J585
R598
R567
R609
C567
D509
D533
C572
D561
J509
R560
R561
R610
R600
D563
C573
D564
D566
D565
R601
C551
E501
H505B
/W505
J558
J603
J557
J556
J555
J602
J554
J553
C554
J588
J544
C560
J587
J605
J586
J589
J520
R546
C514
R530
R402
R558
C580
R559
C578
R602
R562
D562
J582
J583
J584
J535
J548
J547
J546
J545
CN602
CN503
CN601
FP1 5A
C647
R584
R603
J520
C570
Q557
R582
D560
D557
J549
J609
C575
C574
D556
R563
C579
R604
D555
R564
Q555
Q554
J530
Q553
R402
Q520
C514
Q502
Q501
R546
R520
J589
J586
J605
J587
J544
C560
J588
CN601
CN503
D599
D598
D597
J543
J542
J578
J569
C546
J560
J566
J580
C554
C553
J553
J554
J602
J555
J556
J557
J603
J558
D566
D565
H505B
/W505
J564
J601
J417
R502
R570
Q503
R532
J518
R523
R501
R513
C507
R608
J585
R598
R567
R609
C567
D509
D533
C572
D561
J509
R560
R561
R610
R600
D563
C573
D564
R601
C551
E501
J590
R524
R514
C508
R526
R516
C510
R525
R515
C509
R575
J610
C515
C516
R505
R506
R568
C543
J516
C544
R569
D510
J541
J559
R512
R511
Q511
Q512
C503
R551
R550
C504
C506
R510
R509

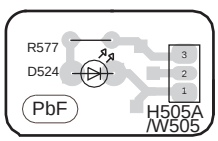
B AC INLET P.C.B. (REPX0436A)



C TRANSFORMER P.C.B. (REPX0436A)



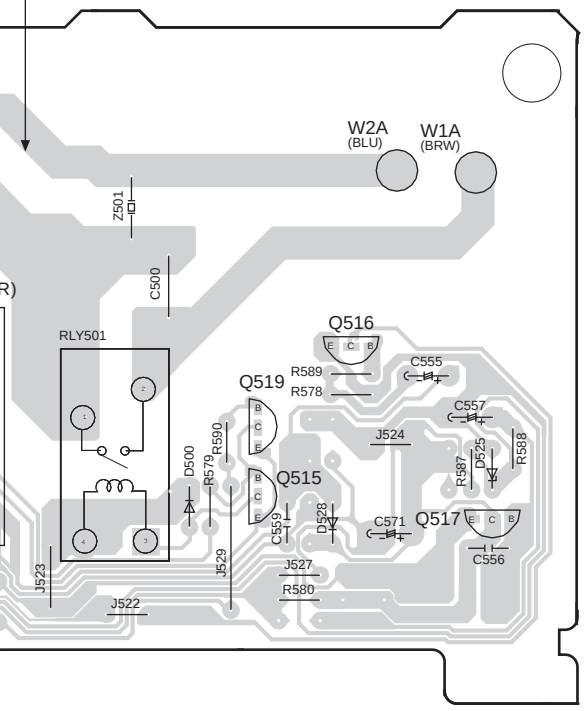
D LED P.C.B. (REPX0436A)



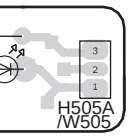
CAUTION
RISK OF ELECTRIC SHOCK
AC VOLTAGE LINE. PLEASE DO NOT
TOUCH THIS P.C.B

G H I J K L M

RIC SHOCK
NE. PLEASE DO NOT
C.B



ED P.C.B.
REPX0436A)

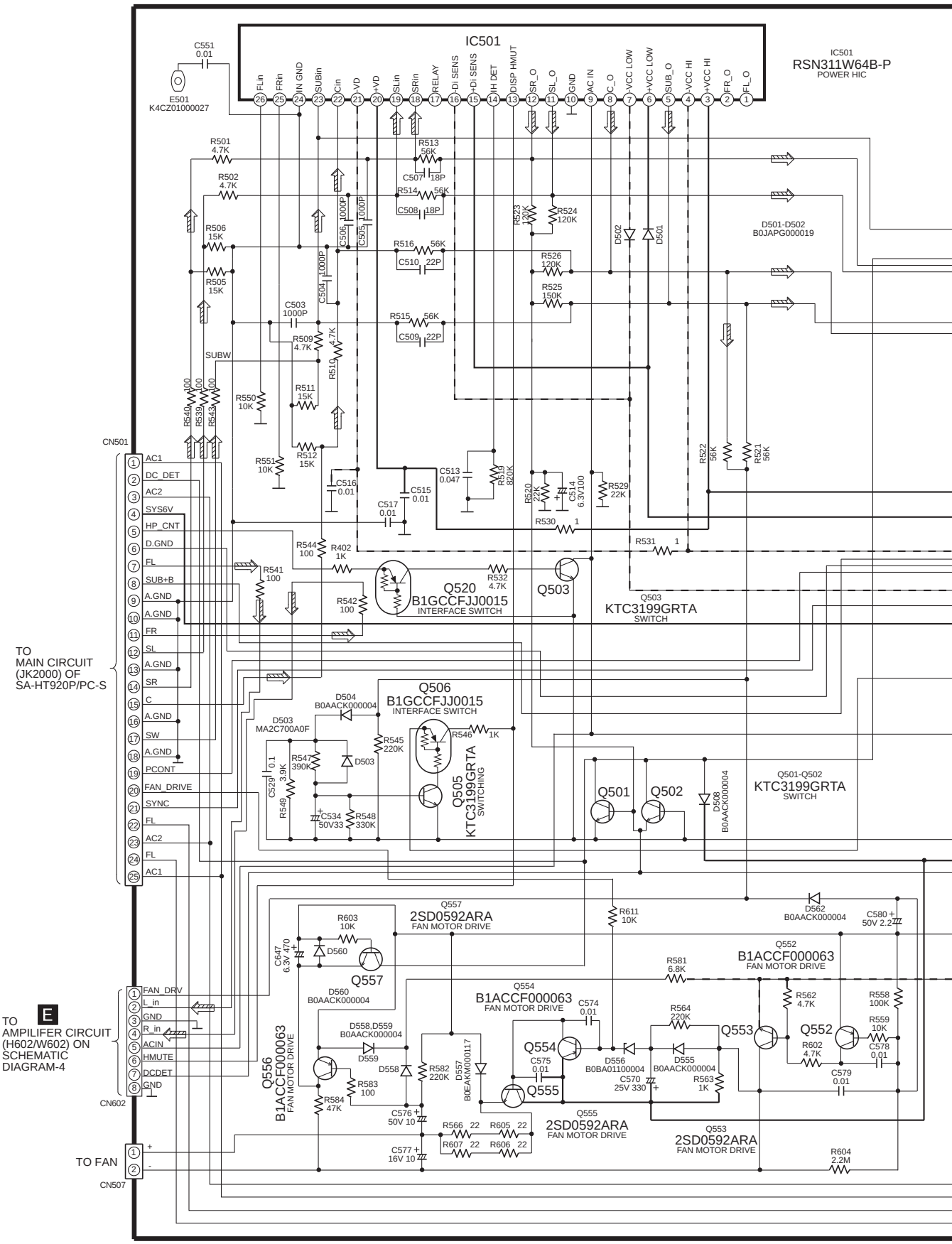


RIC SHOCK
NE. PLEASE DO NOT
C.B

SCHEMATIC DIAGRAM-1

A POWER CIRCUIT

– – – : -B SIGNAL LINE
——— : +B SIGNAL LINE
⇒ : MAIN SIGNAL LINE

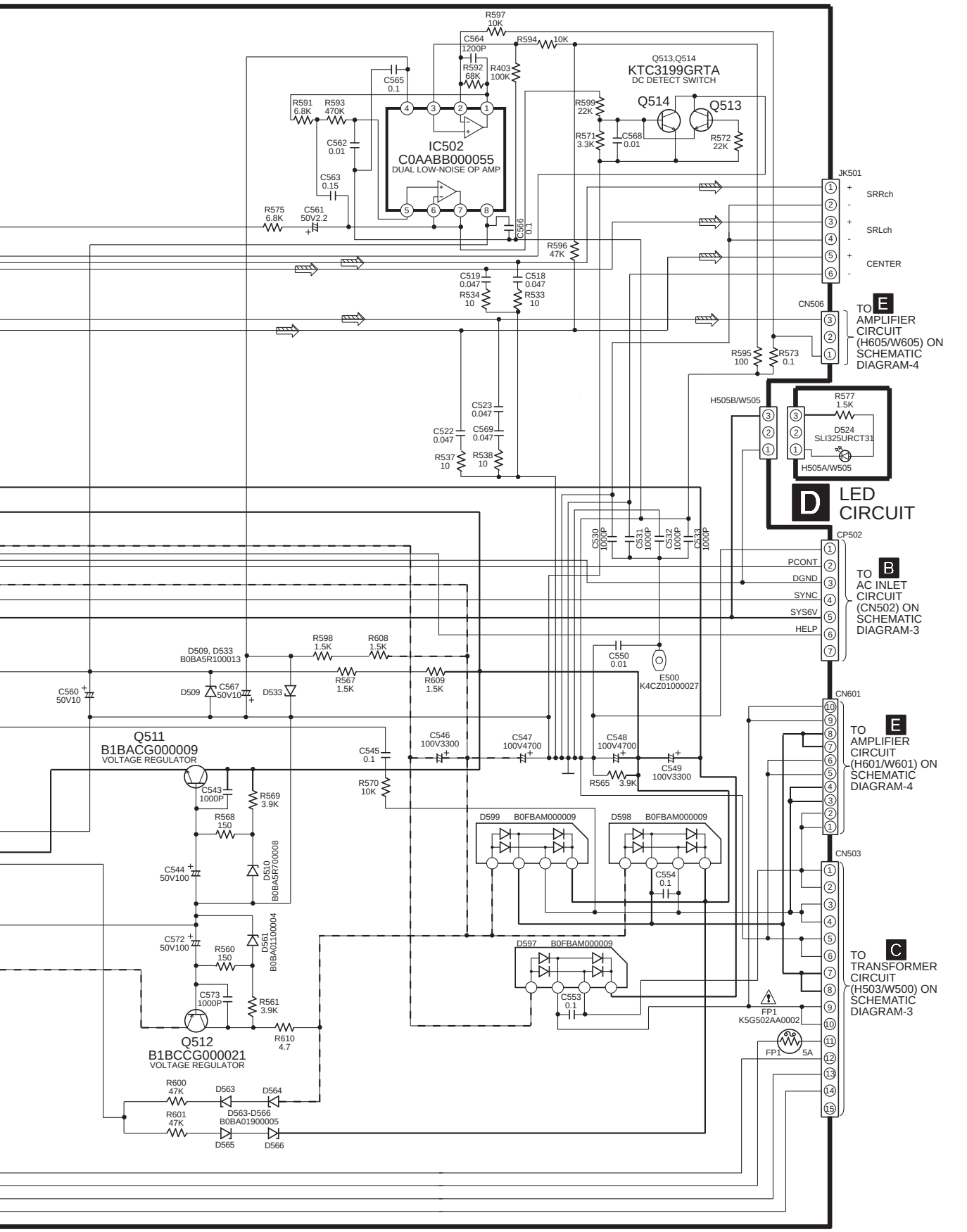


SCHEMATIC DIAGRAM-2

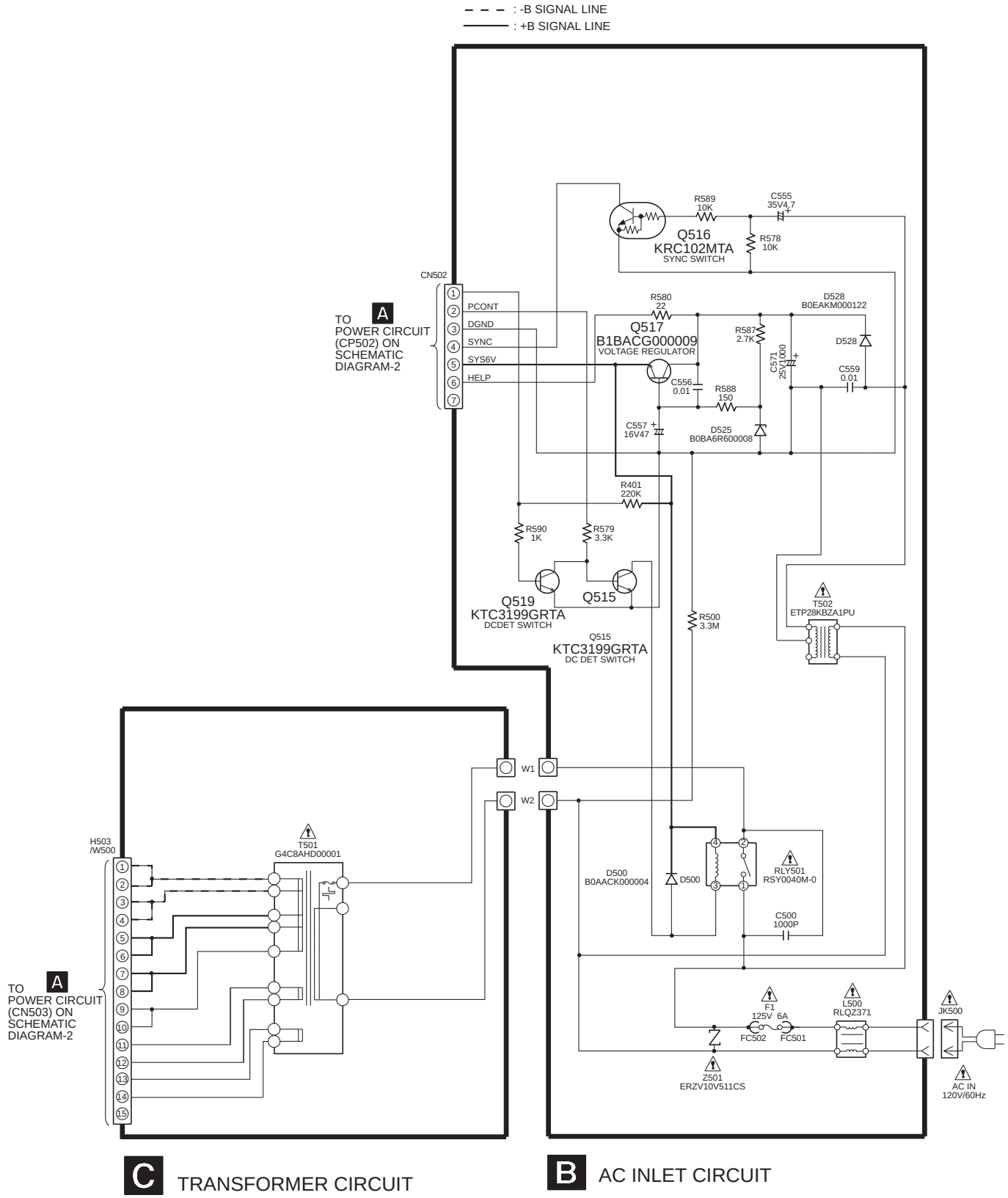
A POWER CIRCUIT

: -B SIGNAL LINE

: MAIN SIGNAL LINE



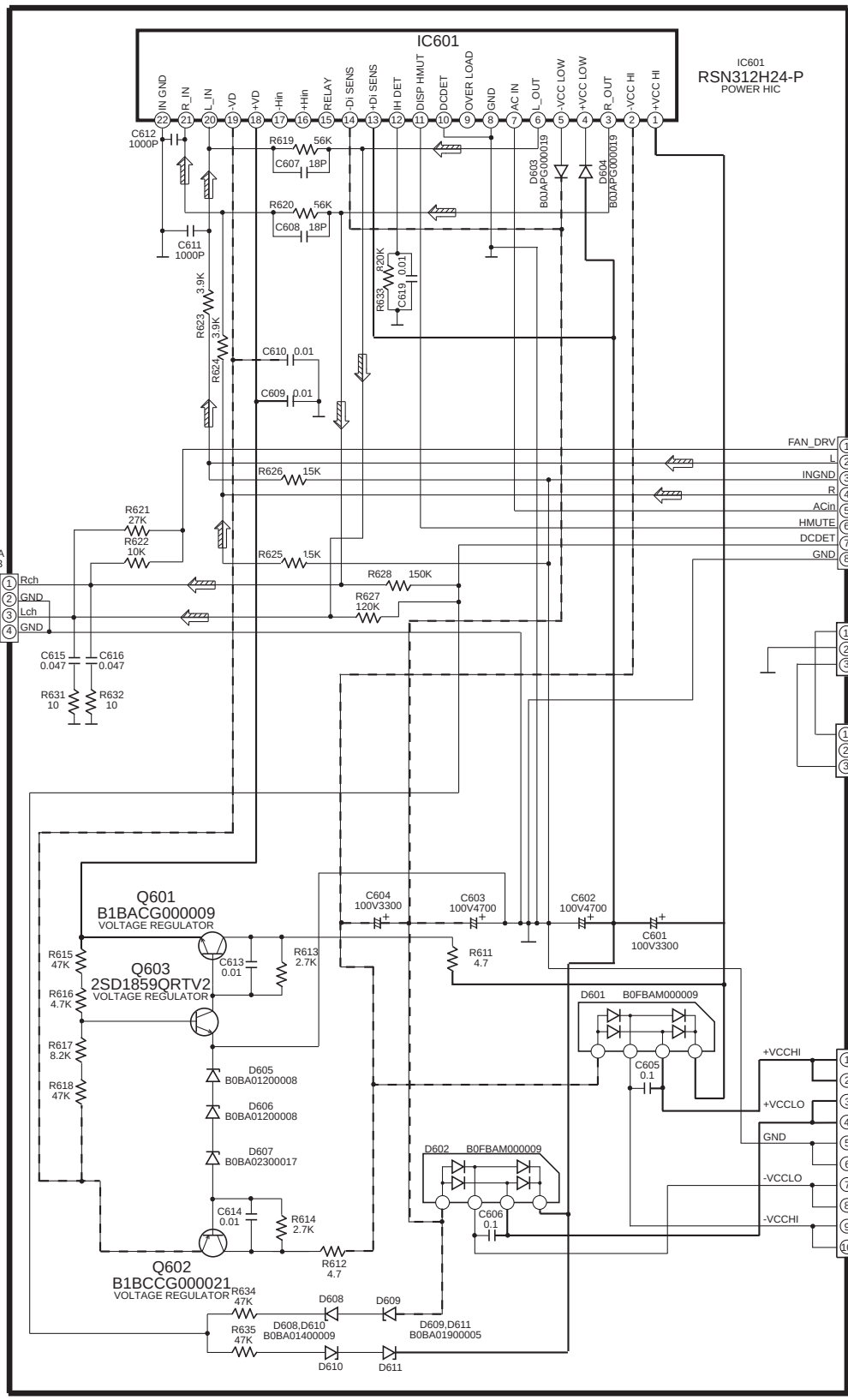
SCHEMATIC DIAGRAM-3

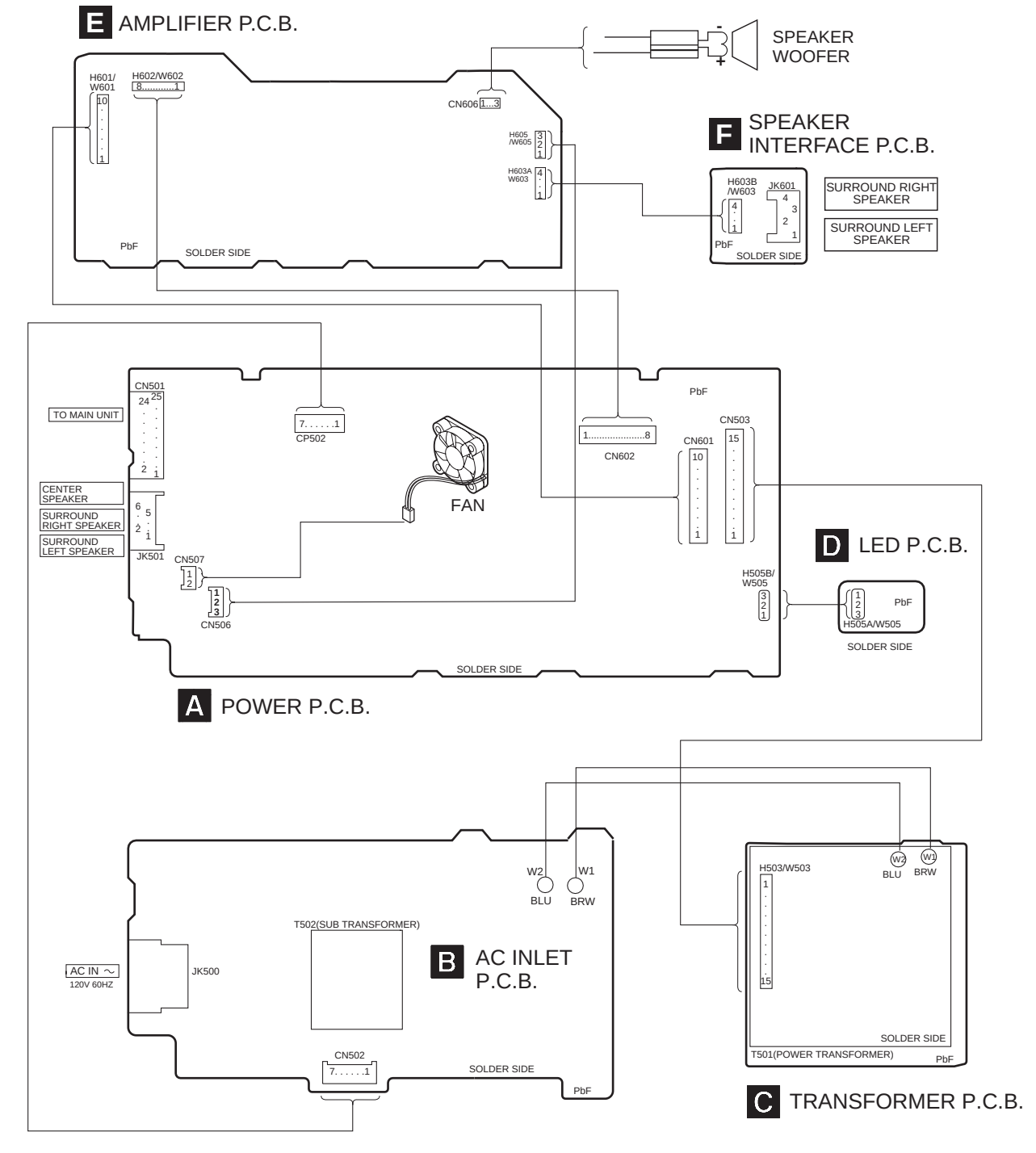


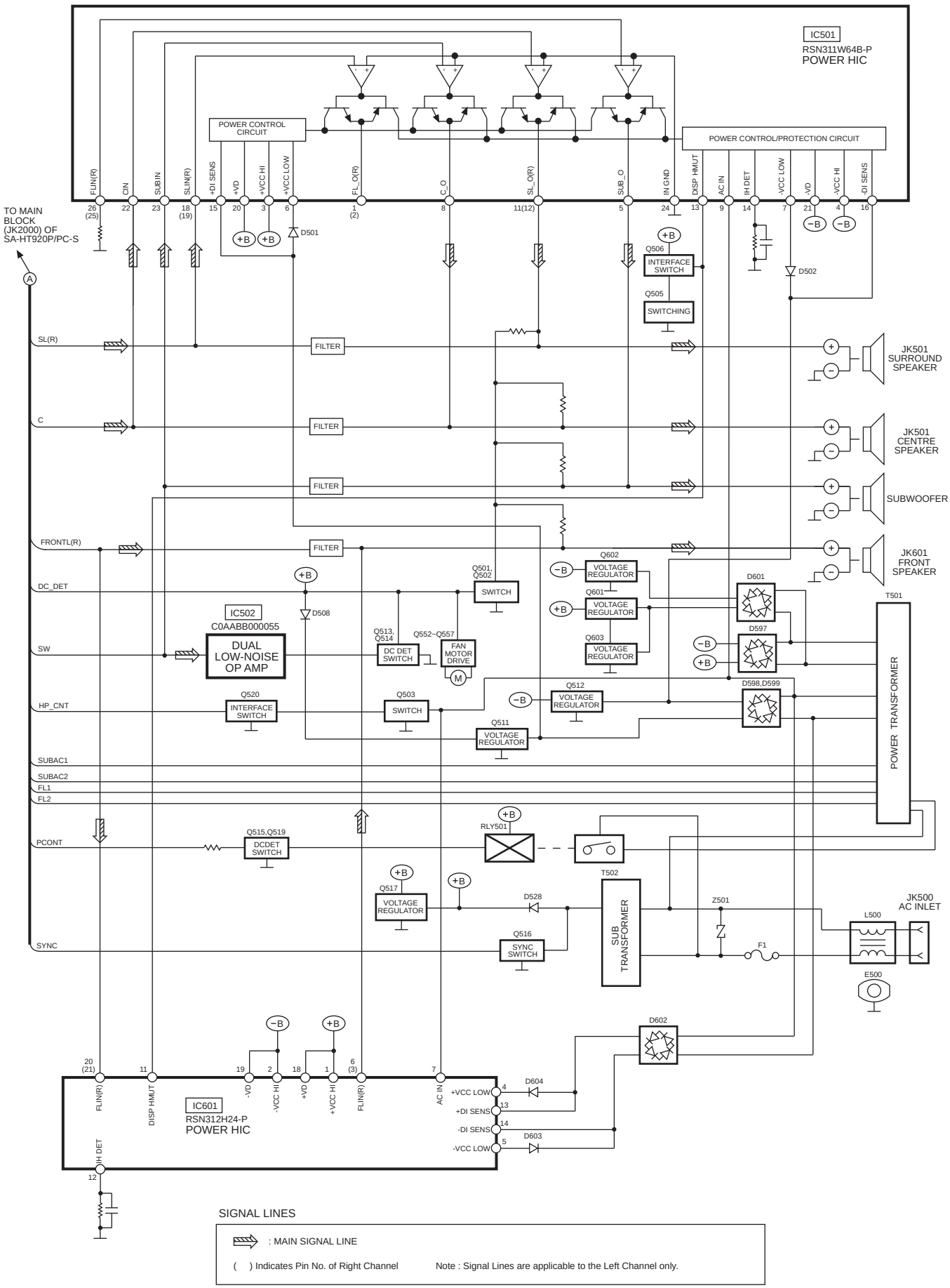
SCHEMATIC DIAGRAM-4

E AMPILIFIER CIRCUIT

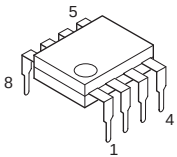
– – – : -B SIGNAL LINE
——— : +B SIGNAL LINE
⇨ : MAIN SIGNAL LINE



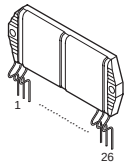

E AMPLIFIER P.C.B.
SPEAKER WOOFER
H601/ W601
H602/W602
CN606
H605 /W605
H603A W603
PbF
SOLDER SIDE
F SPEAKER INTERFACE P.C.B.
H603B /W603
JK601
SURROUND RIGHT SPEAKER
SURROUND LEFT SPEAKER
PbF
SOLDER SIDE
TO MAIN UNIT
CN501
CP502
FAN
CN602
CN601
CN503
CENTER SPEAKER
SURROUND RIGHT SPEAKER
SURROUND LEFT SPEAKER
JK501
CN507
CN506
H505B/ W505
H505A/W505
D LED P.C.B.
SOLDER SIDE
A POWER P.C.B.
W2 BLU
W1 BRW
T502(SUB TRANSFORMER)
AC IN ~ 120V 60HZ
JK500
B AC INLET P.C.B.
CN502
SOLDER SIDE
PbF
H503/W503
T501(POWER TRANSFORMER)
C TRANSFORMER P.C.B.


IC501
RSN311W64-P
POWER HIC
POWER CONTROL CIRCUIT
POWER CONTROL/PROTECTION CIRCUIT
FLIN(R)
CIN
SUBIN
SLIN(R)
+DI SENS
+VD
+VCC HI
+VCC LOW
FL_O(R)
C_O
SL_O(R)
SUB_O
IN GND
DISP HMUT
AC IN
IH DET
-VCC LOW
-VD
-VCC HI
-DI SENS
TO MAIN BLOCK (JK2000) OF SA-HT920P/PC-S
D501
D502
Q506
INTERFACE SWITCH
Q505
SWITCHING
SL(R)
C
FRONTL(R)
FILTER
JK501 SURROUND SPEAKER
JK501 CENTRE SPEAKER
SUBWOOFER
JK601 FRONT SPEAKER
DC_DET
SW
HP_CNT
SUBAC1
SUBAC2
FL1
FL2
PCONT
SYNC
IC502
C0AABB000055
DUAL LOW-NOISE OP AMP
D508
Q501, Q502
SWITCH
Q513, Q514
DC DET SWITCH
Q552~Q557
FAN MOTOR DRIVE
Q520
INTERFACE SWITCH
Q503
SWITCH
Q602
VOLTAGE REGULATOR
Q601
VOLTAGE REGULATOR
Q603
VOLTAGE REGULATOR
Q512
VOLTAGE REGULATOR
Q511
VOLTAGE REGULATOR
D601
D597
D598,D599
T501
POWER TRANSFORMER
Q515,Q519
DCDET SWITCH
RLY501
Q517
VOLTAGE REGULATOR
D528
Q516
SYNC SWITCH
T502
SUB TRANSFORMER
Z501
F1
L500
JK500 AC INLET
E500
D602
D604
D603
IC601
RSN312H24-P
POWER HIC
SIGNAL LINES
: MAIN SIGNAL LINE
( ) Indicates Pin No. of Right Channel
Note : Signal Lines are applicable to the Left Channel only.

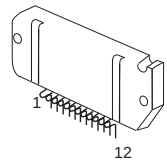
C0AABB000055



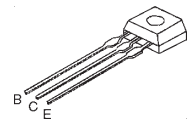
RSN311W64B-P



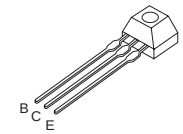
RSN312H24-P



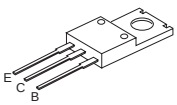
KTC3199GRTA



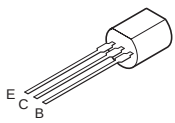
B1GCCFJJ0015
KRC102MTA



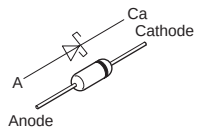
B1BACG000009
B1BCCG000021



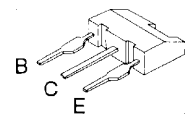
B1ACCF000063
2SD0592ARA



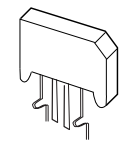
MA2C700A0F



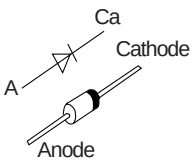
2SD1859QRTV2



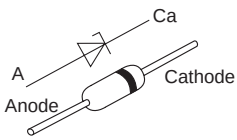
B0FBAM000009



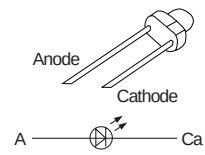
B0JAPG000019
B0EAKM000117



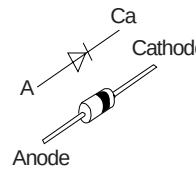
B0BA6R600008
B0BA5R100013
B0BA01200008
B0BA5R700008
B0BA02300017
B0BA01100004
B0BA01400009



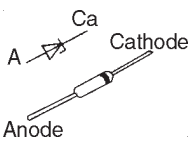
SLI325URCT31



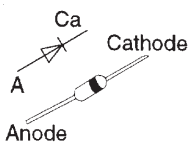
B0EAKM000122



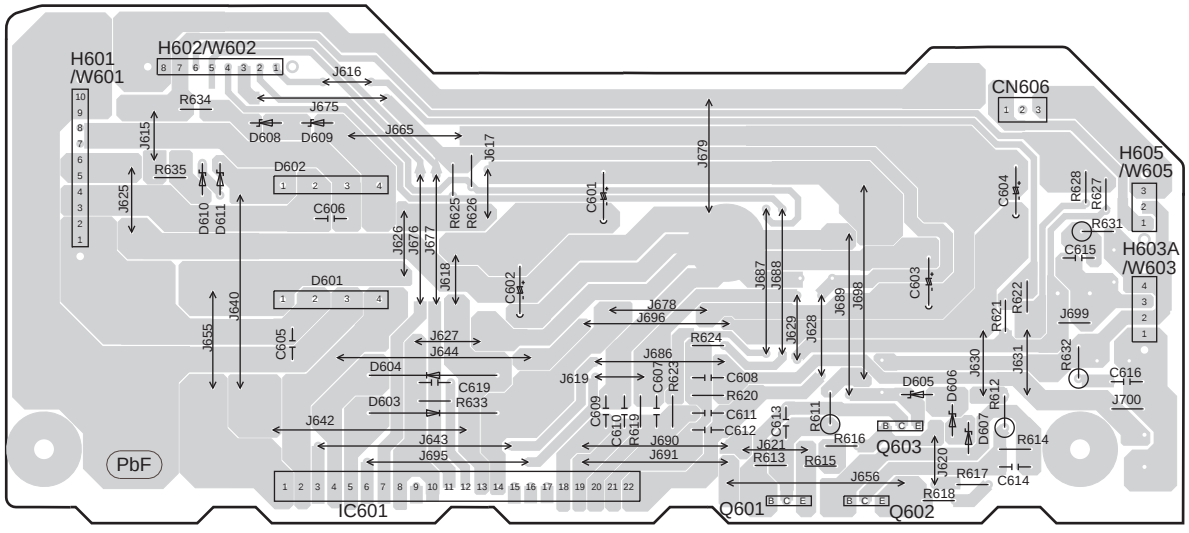
B0BA01900005



B0AACK000004



E AMPLIFIER P.C.B. (REPX0435A)



F SPEAKER INTERFACE P.C.B. (REPX0435A)